DECEMBER 22, 1945

Railway Age

Founded in 1856

THE LIBRARY OF CONGRESS SERIAL RECORD JAN 17 1946 COPY / GIFT

first 3000-hp

SINGLE-UNIT DIESEL-ELECTRIC LOCOMOTIVE

Most powerful single-unit diesel-electric ever built is this new Baldwin 3000-hp. locomotive recently delivered to the Seaboard Air Line.

It will be used to haul fresh fruits and winter vegetables from Florida to northern markets on the fastest freight schedules ever offered by the Seaboard.

This new locomotive represents the latest addition to Baldwin's complete line of diesel-electrics for all classes of railroad service. The Baldwin Locomotive Works, Philadelphia 42, Pa., U. S. A. Offices: Philadelphia, New York, Chicago, Washington, Boston, Cleveland, Detroit, St. Louis, San Francisco, Houston, Pittsburgh, Birmingham.

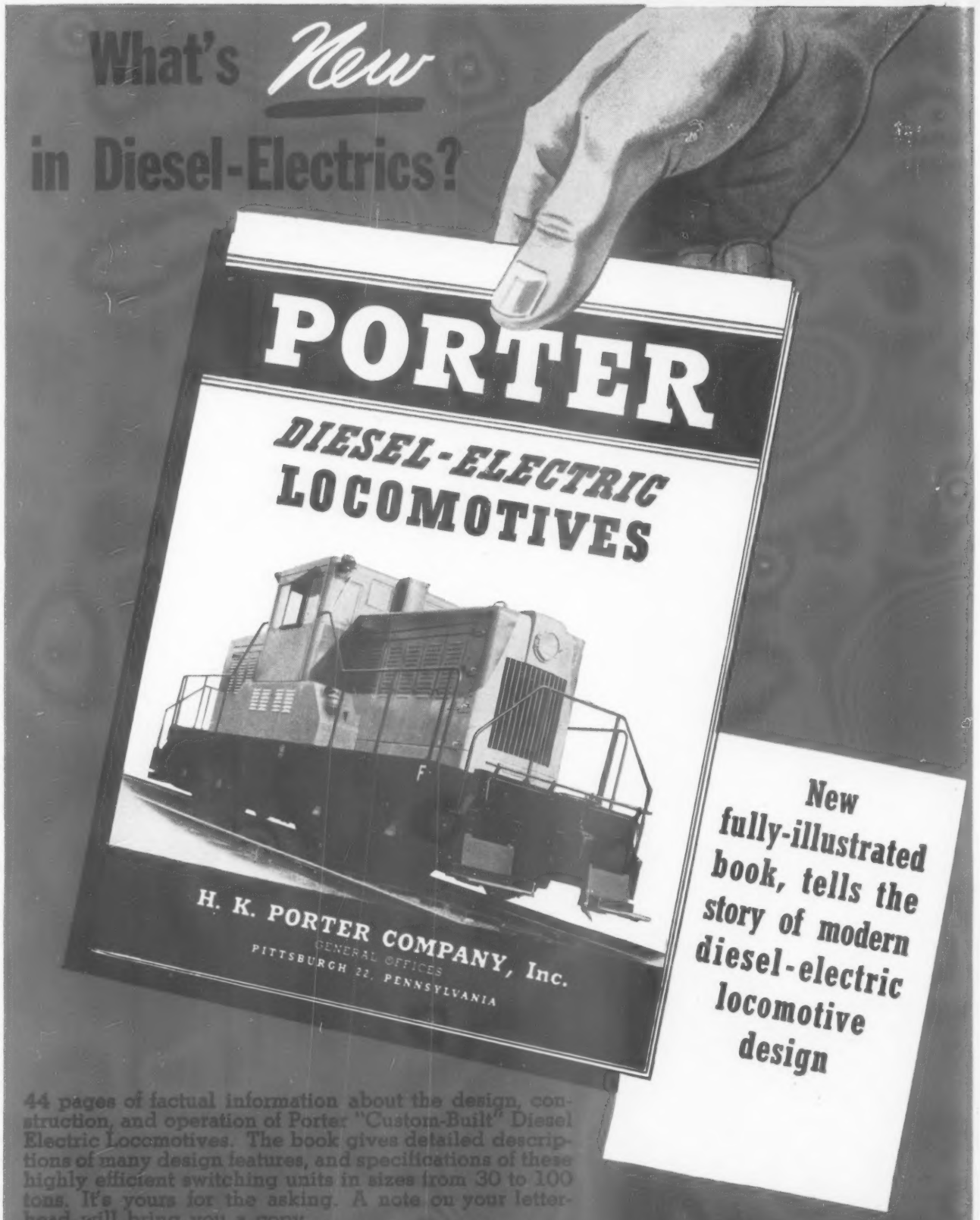
BALDWIN

LOCOMOTIVES

BALDWIN PRODUCTS FOR THE RAILROADS: Steam, diesel-electric and electric locomotives, Diesel engines, Hydraulic presses, Special railroad shop equipment, Testing machines and instruments, Steel tires and rolled steel wheels, Crane wheels, Connecting rods and other steel forgings, Steel castings, Springs, Metal plate fabrication, Boilers, Non-ferrous castings, Bending rolls, Plate planers, Dynamometer cars.

BLW THE BALDWIN GROUP

What's *New* in Diesel-Electrics?



New fully-illustrated book, tells the story of modern diesel-electric locomotive design

44 pages of factual information about the design, construction, and operation of Porter "Custom-Built" Diesel Electric Locomotives. The book gives detailed descriptions of many design features, and specifications of these highly efficient switching units in sizes from 30 to 100 tons. It's yours for the asking. A note on your letterhead will bring you a copy.

H. K. PORTER COMPANY, Inc.

PITTSBURGH 22, PENNSYLVANIA

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PORTER
Better Built
Equipment

Published weekly by Simmons-Boardman Publishing Corporation, 1309 Noble Street, Philadelphia, Pa. Entered as second class matter, January 4, 1933, at the Post Office at Philadelphia, Pa., under the act of March 3, 1879. Subscription price $6.00 for one year U. S. and Canada. Single copies, 25 cents each. Vol. 119, No. 25.

Throw this deadhead off with Mayari R

RHYMES WITH "FIERY"

A lot of railway cars, even in these days of heavy traffic, carry an unseen, and non-paying rider. He's a big, hefty fellow, and his name is Dead Weight.

When you build a freight or passenger car with Mayari R, Bethlehem's low-alloy, high-strength steel, there aren't any of these deadheads. That's because Mayari R enables you to use thinner, lighter sections, at little or no increase in cost, so that dead weight can be reduced, and greater cubic capacity obtained for pay-load.

Mayari R is tough and strong, resistant to impact, abrasion and atmospheric corrosion. That's why parts built with it last longer, assure lower depreciation and maintenance costs. And Mayari R keeps down costs in another way. It's readily workable and weldable—is used "as-rolled"—makes a hit with shop men everywhere because it's as easy to handle as plain carbon steel.

Look into the weight-saving and other advantages of Mayari R. For catalog, write to the nearest Bethlehem district office, or to Bethlehem Steel Company, Bethlehem, Pa.

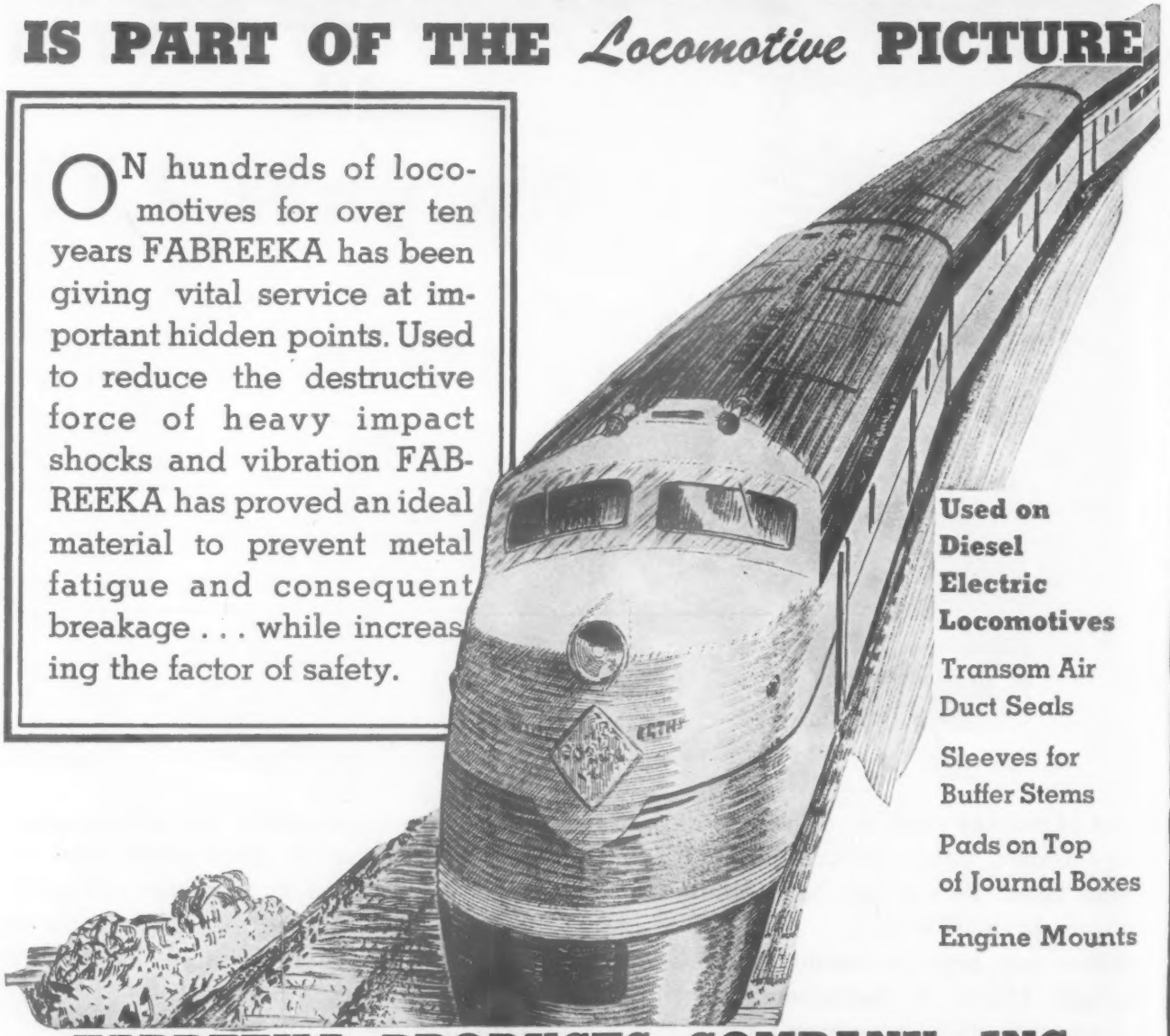
★ ★ ★ BETHLEHEM STEEL ★ ★ ★

Mayari R *makes it lighter... stronger... longer lasting*

FABREEKA

IS PART OF THE *Locomotive* PICTURE

ON hundreds of locomotives for over ten years FABREEKA has been giving vital service at important hidden points. Used to reduce the destructive force of heavy impact shocks and vibration FABREEKA has proved an ideal material to prevent metal fatigue and consequent breakage . . . while increasing the factor of safety.



Used on Diesel Electric Locomotives

Transom Air Duct Seals

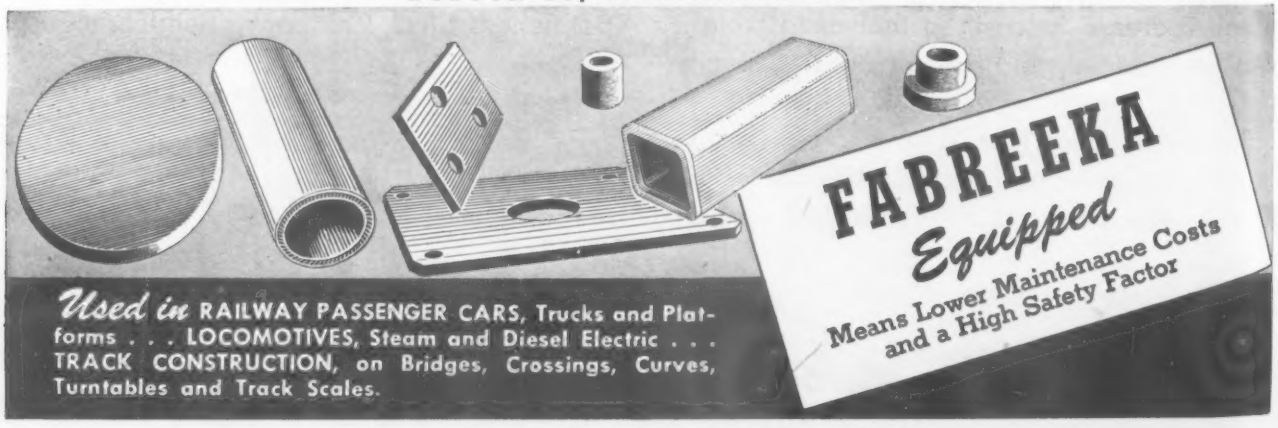
Sleeves for Buffer Stems

Pads on Top of Journal Boxes

Engine Mounts

FABREEKA PRODUCTS COMPANY, INC.

BOSTON 10, MASSACHUSETTS



Used in RAILWAY PASSENGER CARS, Trucks and Platforms . . . LOCOMOTIVES, Steam and Diesel Electric . . . TRACK CONSTRUCTION, on Bridges, Crossings, Curves, Turntables and Track Scales.

FABREEKA *Equipped*

Means Lower Maintenance Costs and a High Safety Factor

Now, Bendix V.H.F. (very high frequency) Railroad Radio brings static-free, two-way communications to yards and terminals—communications fast as an operator's speech.

Easily used, simply push to talk—release to hear, this integrated space radio system provides complete control over every radio-equipped engine in the yard or terminal vicinity. Orders and instructions are "spot" received and acknowledged. Existing railroad equipment is used to maximum capacity—unnecessary trips and telephone stops eliminated. Direct contact makes operating engines available for opportune switching at sidings, pierheads, interchange, etc. Blanket orders or information can be simultaneously radioed to all operating personnel.

Logically cutting operating costs by increasing productive time, this V.H.F. radio system—built by Bendix, foremost name in aircraft radio manufacture—is truly a communication system that "pays its own way." For further information on this communication system, "creatively engineered" for *all railroad operations,* write; Railroad Radio Sales, Bendix Radio, Baltimore 4, Md.

MULTIPLE REMOTE CONTROL

Typical of Bendix foresight in anticipating tomorrow's communication demands is the Multiple Remote Control. Designed for operation of a single fixed transmitter, these units give several control stations interphone privileges and complete two-way radio coverage without increasing basic equipment costs. For further information on the operation of this unit, write for "How to Use Bendix Train Radio."

BENDIX RADIO

BENDIX RADIO DIVISION, BALTIMORE 4, MD.

PRODUCT OF Precision Equipment Bendix AVIATION CORPORATION

Triple-duty 44-TONNER

THESE IMPORTANT FEATURES PRODUCE
LONG LIFE, MINIMUM MAINTENANCE

1. Sturdy, all-welded cab, underframe, and trucks.

2. Reliable railroad design, with all parts easily accessible for inspection and maintenance.

3. Four heavy-duty traction motors, self-ventilated with clean air drawn from above the locomotive platform. Motors are axle-mounted and cushioned from shock by spring-nose support.

4. Simple control, connecting two motors permanently in parallel to each generator.

5. Full battery charging at all speeds—total 3.5 kw.

6. Differential split-pole exciters, with simple magnetic circuits, which require no adjustment and hold the generator horsepower output constant throughout the normal speed range of the locomotive.

Alco GE

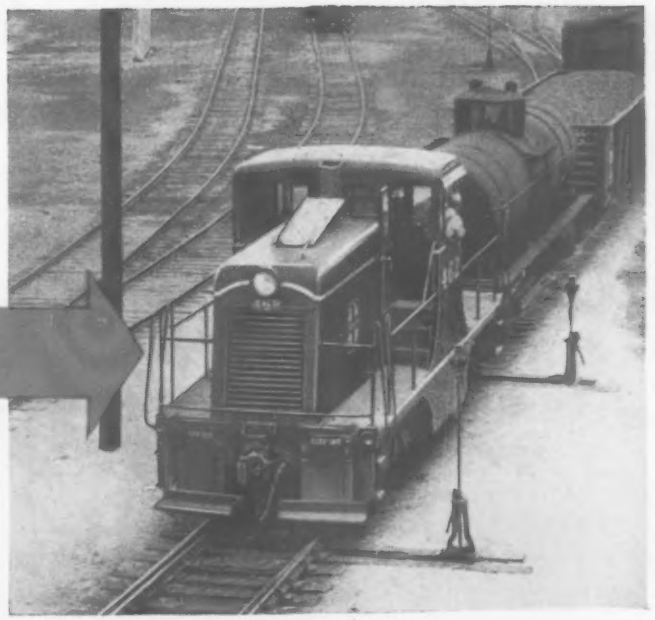
AMERICAN LOCOMOTIVE

PROVES ITS VERSATILITY

on 3 Santa Fe jobs

WHETHER it's switching, yard service, light road work—or any combination of the three—this 380-hp, 44-ton diesel-electric locomotive is capable of doing an outstanding job and producing annual net savings that are often 20 to 30 per cent of its cost.

Here's how three units, on three different operations of the Santa Fe, are reducing motive-power requirements through their versatility and ability to work on 24-hour daily schedules:



YARD SWITCHING

● Three eight-hour tricks a day in the Topeka yards are the regular assignments of this 44-tonner. It easily handles trains of 20 loaded cars and uses an average of four gallons of fuel oil an hour—costing about 24 cents, compared with an average fuel cost of 60 cents an hour for steam locomotives doing comparable work.

TRANSFER WORK

● In addition to its regular assignment of switching at the Fresno passenger station, this diesel-electric takes a 35-car freight train every day from the Calwa, Cal., yard three miles to Fresno. There, it breaks up the train, delivers the cars to industrial sidings, and then returns to Calwa with another train.

STATION SWITCHING

● "Y-ing" Santa Fe crack streamliners, such as the "San Diegan", is only one of the close-schedule jobs that this 44-ton unit handles at San Diego; it does the industrial switching and shop work as well. During three recent months, its availability for work averaged more than 98 per cent.

Low in first cost and low in maintenance cost, the 44-ton diesel-electric has proved to be a good investment even for one-shift-per-day operation—an even better investment when you work it more hours.

Powered for Railroad Work—Built to Last

Speed, Mph	Tractive Effort, Lbs	TRAILING TONS				
		Level	0.5% Grade	1.0% Grade	1.5% Grade	2.0% Grade
5	17,500	2016	902	570	411	317
7.5	12,300	1405	632	388	276	210
10	9,650	1091	478	285	206	154
15	6,600	734	313	188	128	92
20	4,750	516	213	123	79	54
25	3,750	398	159	88	54	33
30	3,050	315	121	63	38	19
35	2,350	233	83	39	17	5

Resistance is based on 8.5 pounds per ton.

Its utilization can be just as high as its average availability—95 per cent—because it has the versatility to take care of the entire motive-power requirements on light-traffic parts of your system.

We'd like to discuss the application of this diesel-electric with you, and work with your organization on a motive-power survey to determine the savings it can effect on your road.

121-30-9580

and GENERAL ELECTRIC

Locomotive ECONOMY and SERVICE in Production

THE shops of Locomotive Finished Material Company are busy producing LOCOMOTIVE ECONOMY and SERVICE. Yes, Locomotive Economy and Service is what you accomplish when you apply LFM Lightweight Alloy Steel Pistons and Combination Universal Sectional Bull and Packing Rings. LFM Pistons, being approximately 50 per cent lighter than the conventional type, lengthen the life of other parts, save power and fuel, greatly increase mileage between renewals and help solve counterbalance problems.

To save money, time and materials and to increase locomotive availability — specify LFM Lightweight Alloy Steel Pistons.

LOCOMOTIVE FINISHED MATERIAL COMPANY

Atchison, Kans. New York City Chicago, Ill.

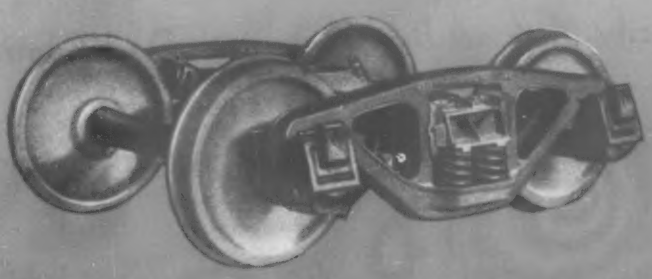
LFM

LIGHT WEIGHT ALLOY STEEL PISTONS
and Combination Universal Sectional
BULL AND PACKING RINGS

More than half of all American railroads that have used the A.S.F. Ride-Control Truck already have re-ordered... some as many as seven times. There could be no finer testimonial for the softer, smoother ride this better freight car truck delivers.

MINT-MARK OF ⬡ FINE CAST STEEL

Over 18,000 car sets of this modern freight car truck are already in service or on order by 44 railroads and private car owners.



A·S·F *Ride-Control* TRUCK (A-3)

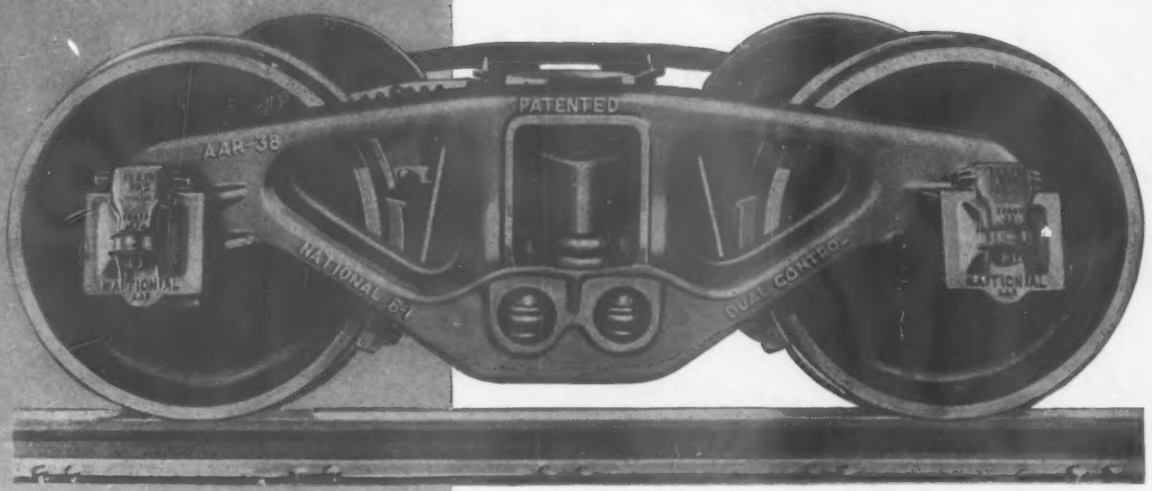
NO SPRING PLATES—NO SPRING PLANKS

LONG SPRING TRAVEL CONSTANT FRICTION CONTROL

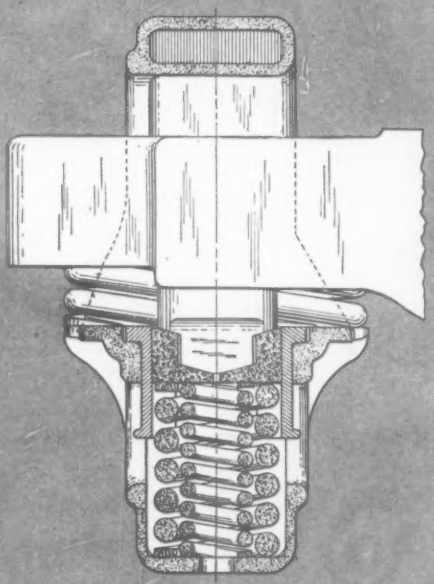
AMERICAN STEEL FOUNDRIES

CHICAGO

A Smooth Ride



Springs are protected.
Spring Plates are eliminated.
Maintenance cost is low.



Section Thru Control Unit
Two Control Units in each frame

Full protection of cars and lading, rails and roadbed, is essential for economical railroad operation.

A smooth riding car relieves the car and contents from damaging vibrations and shocks, reduces wear on track and car structure, and greatly lengthens the life of equipment.

The National B-1 Truck is equipped with four built-in friction units which control both vertical and horizontal oscillations. No separate snubbers are necessary.

The frictional snubbing action is governed by the load carried, thus assuring a smoother riding car whether light or loaded.

Specify National B-1 Trucks with Dual Control

They meet all A.A.R. requirements

NATIONAL MALLEABLE AND STEEL CASTINGS CO

General Offices: CLEVELAND, OHIO

Sales Offices: New York, Philadelphia, Chicago, St. Louis, San Francisco

Works: Cleveland, Chicago, Indianapolis, Sharon, Pa., Melrose Park, Ill.

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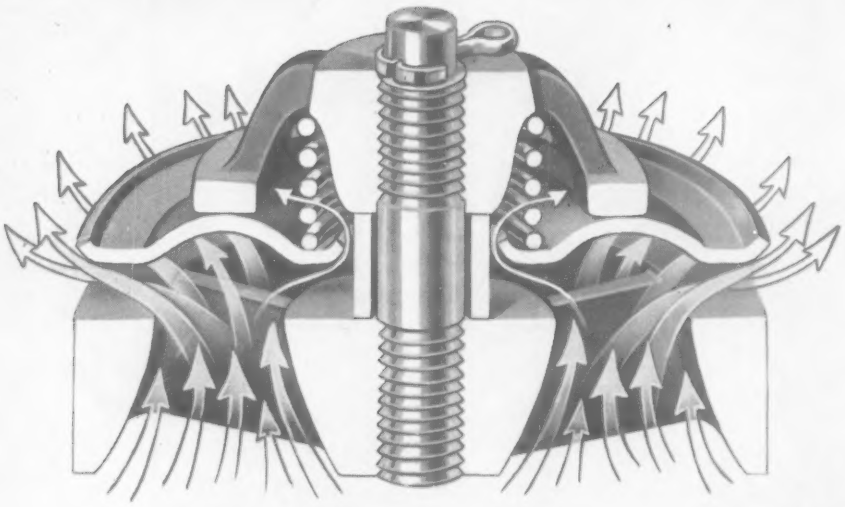
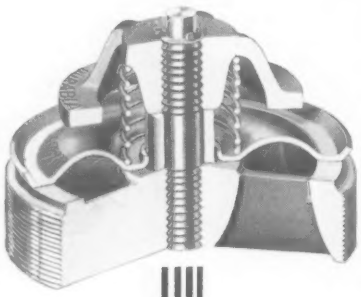


No reciprocating pump is more efficient than its valves and valve performance is dependent on the method utilized to close the valves.



DURABLA

VALVE UNITS UTILIZE PROTECTED, SELF-CLEANING, LONG LIFE SPRINGS

DURABLA Valve Units* utilize springs to return the valve member to the seat. DURABLA design completely eliminates the usual objections to the use of springs. This permits substantial reduction in weight; more compact installation; and greater flexibility in location of the valve service. Non-spring-actuated valves and other types of spring-actuated valves do not offer these advantages.

1. The DURABLA Valve Spring is normally never compressed more than 50% of its length due to the protection of the spring guard. The coils of the spring never touch when the spring is in compressed position.
2. The DURABLA Valve Spring is self-cleaning as by virtue of the open type spring guard it is exposed to the fluid flow.
3. DURABLA Valve Springs operate effectively at 3000 rpm (6000 motions of the valve per minute) and higher.
4. The protection of the DURABLA Valve Spring permits lighter spring pressure, thereby reducing energy required to open the valves.

DURABLA Protected Self Cleaning Valve Springs are just one of the characteristics of DURABLA Valve Units which are an implicit guarantee of high efficiency, long life and long term economy.

Address DURABLA Engineering Department for Information and Bulletin; Reference *9A12*

*Patent Numbers 2090486, 2117504

DURABLA MANUFACTURING COMPANY
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SYMBOL OF SAFETY

. . . . . and surety against sneak-attacks of heat
IN JOURNAL BOXES!

The Fenwal Railway Journal Alarm warns in time of impending rise of heat that could cause trouble in the journal box. American railways all over the U. S. A. depend today on the Fenwal Journal Alarm for accurate, adequate protection of journal boxes and warning before danger strikes. The Fenwal Journal Alarm system further provides the added protection of an instant circuit test to determine that the circuit is closed, without grounds, shorts or opens, before a trip.

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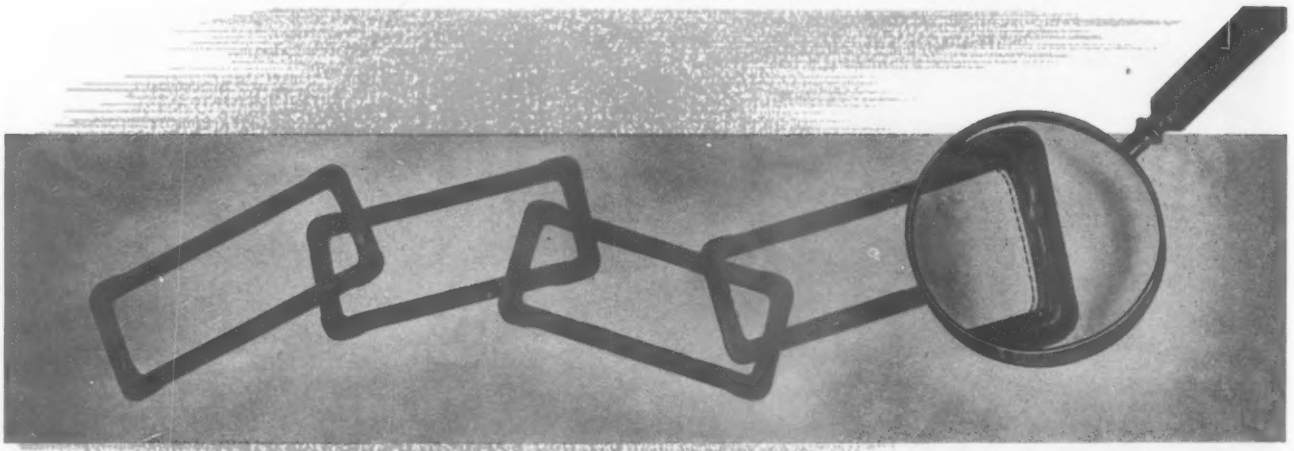
THERMOSWITCHES FOR COMPLETE TEMPERATURE CONTROL



Schaefer BRAKE BEAM HANGERS

Good in 1928- Better in 1945

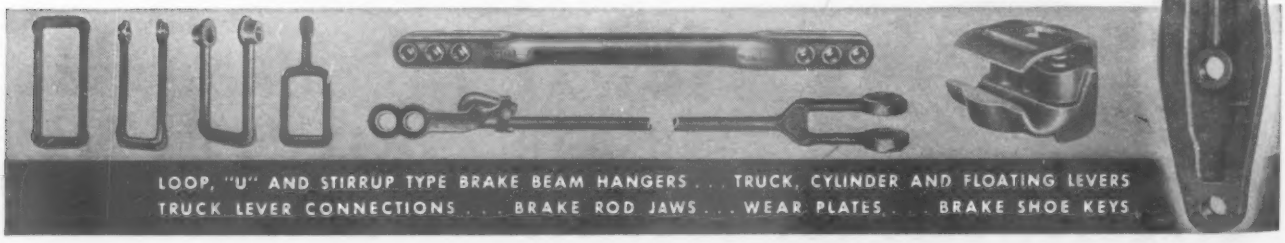
Get the Complete Story of the Schaefer Less Weight-Full Strength Design ... Write for this New Catalog

A Western car owner first installed Schaefer Loop Hangers in 1928. Recently, after 16 years of service, a complete set of hangers was removed at our request. Inspection disclosed little wear and also *uniform* resistance to wear.

Good as these hangers were in 1928, Schaefer Loop Hangers of today are better because they are forged to conform to more advanced practices and quenched within a more closely controlled temperature range.

Schaefer EQUIPMENT COMPANY

KOPPERS BUILDING • PITTSBURGH, PA.



LOOP, "U" AND STIRRUP TYPE BRAKE BEAM HANGERS . . . TRUCK, CYLINDER AND FLOATING LEVERS
TRUCK LEVER CONNECTIONS . . . BRAKE ROD JAWS . . . WEAR PLATES . . . BRAKE SHOE KEYS

I. B. EQUIPMENT stands the gaff

Well engineered, ruggedly built I.B. material handling equipment stands up under the punishing grind of moving large quantities of materials day after day without repeated and costly breakdowns and repairs. That's why husky I.B. car dumpers, coal and ore bridges, portal pier cranes and locomotive cranes are handling the big jobs in so many important industrial installations throughout the world. I.B. equipment can be depended upon to handle materials for long sustained periods, with low operating and maintenance costs. For the dependable answer to your material handling problems, get the facts from I.B.

Above: I.B. High-Lift Electric Car Dumper emptying 120-ton capacity coal cars at the rate of sixty cars per hour.

Right: I.B. Locomotive Crane, known the world over for dependable, economical operation with hook, magnet, or bucket. Patented Monitor-type cab permits operator 360° visibility.

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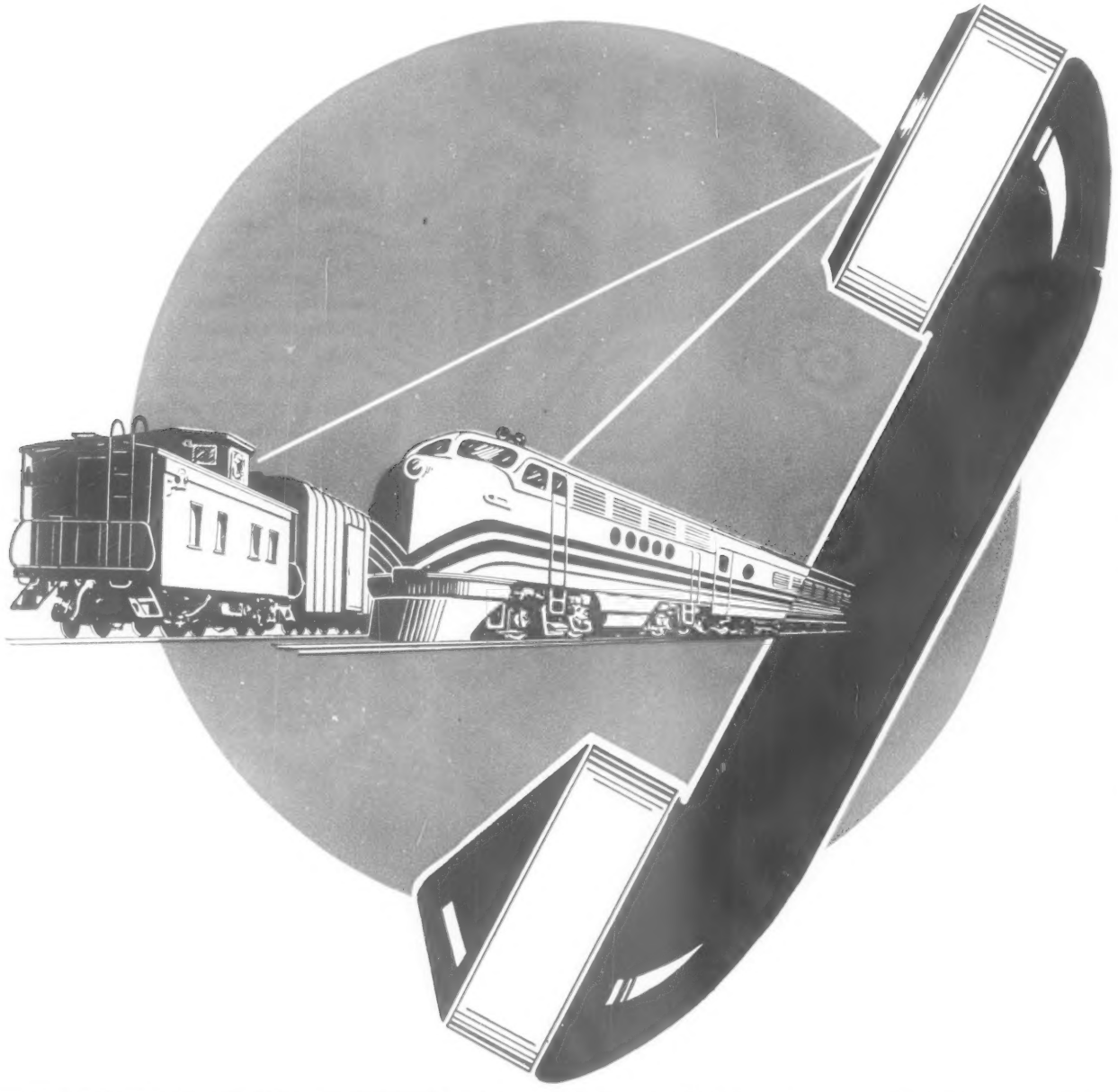
FOR OUR 20-PAGE BOOKLET, "RAILROAD COMMUNICATIONS," WRITE MAGUIRE INDUSTRIES, INC., BRIDGEPORT, CONN.



MAGUIRE SPACE RADIO

...an integrated communication system featuring complete and flexible radio coverage for entire rail networks. Compact in design and employing a minimum of apparatus at each point of operation, these units may be easily coordinated with the existing facilities of your line.

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December 22

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RAILWAY AGE

Aluminum

MAKES THE DIFFERENCE . . .

MAN-POWER OR A HOIST

Lightweight aluminum cylinder heads simplify and speed up the servicing of an engine. For example, one man can handle a 110-pound aluminum head by himself. But he'd probably need a helper and a hoist if that head weighed 225 pounds.

Helpers aren't always handy, and diesels are often located without enough headroom for a hoist. With "one-man" aluminum heads, you don't have those problems. In addition to this advantage, cylinder heads of Alcoa Aluminum provide superior thermal properties. Their use helps boost engine ratings, improve their performance and dependability.

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ALCOA FIRST IN ALUMINUM®

AO

DURALITE GOGGLES *Give All-Round Protection and Comfort*

AO Duralite Goggles—sturdy yet lightweight—are equipped with impact resisting AO Super Armorplate Lenses that provide maximum possible protection from chips that come from *any direction.*

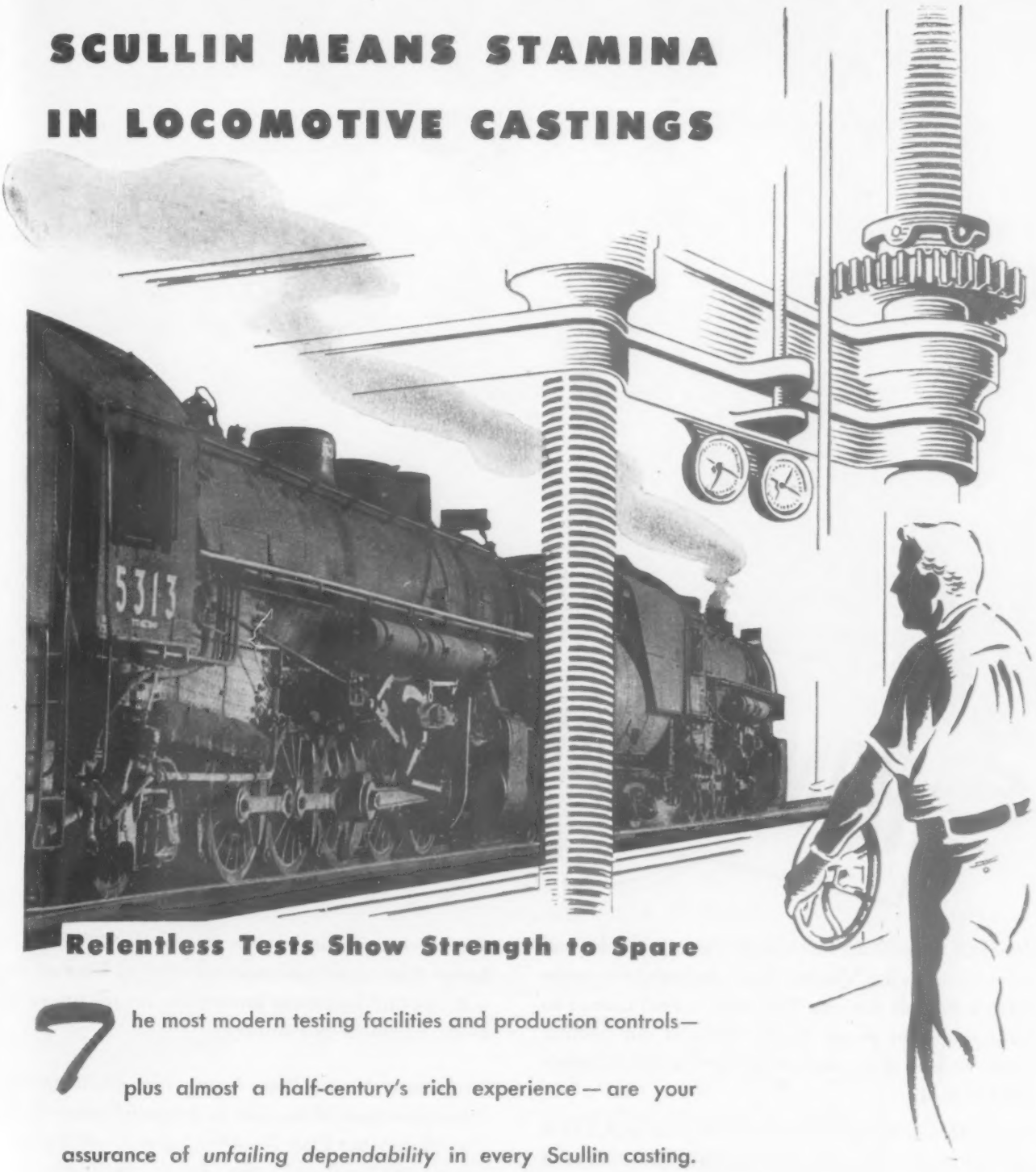
The individual eyecups are anatomically designed and have rounded edges for comfort. They are also especially well ventilated to reduce any possibility of fogging.

AO Duralite Goggles have a one-piece adjustable headband that allows a secure yet comfortable fit, will not catch the hair, and is resistant to perspiration, oil, water and grease.

Write your nearest AO Branch office for complete details.

American Optical
COMPANY
SOUTHBRIDGE, MASSACHUSETTS

SCULLIN MEANS STAMINA IN LOCOMOTIVE CASTINGS



Relentless Tests Show Strength to Spare

The most modern testing facilities and production controls—plus almost a half-century's rich experience—are your assurance of *unfailing dependability* in every Scullin casting.

ARMY ★ NAVY

SCULLIN STEEL CO

SAINT LOUIS 10, MISSOURI

STEEL CASTING MANUFACTURERS SINCE 1899

NEW YORK • CHICAGO • PHILADELPHIA • CLEVELAND • ST. PAUL • BALTIMORE • RICHMOND, VA. • MEXICO CITY, D.F.

HOME for them!

and the HOME STRETCH for YOU!

You still have time! In December, your employees' allotments to the Victory Loan through your company's Payroll Savings Plan offer a final chance to help speed the proud homecoming of our fighting men—and do all in medical power for our hospitalized heroes!

Make December a plantwide TOP-THE-QUOTA drive! Now's the time to spotlight your Payroll Savings Plan—and "brief" your Bond-selling organization for fast, last minute action!

Resolicit every employee to buy the New F.D.R. Memorial $200 Bond

The new Franklin Delano Roosevelt $200 Bond—better than actual cash because it earns interest—is a strong building stone toward the secure future of every employee-purchaser!

From now 'til the New Year—with plant rallies, interdepartmental contests and resolicitation—keep Payroll Savings Plan Bond-buying at a new Victory Loan high! Buying a Victory Bond is the best way of saying "Welcome Home" to our returning veterans! Also an active aid in assuring prosperity to your nation, your employees—and your own industry!

VICTORY LOAN

The Treasury Department acknowledges with appreciation the publication of this message by

RAILWAY AGE

This is an official U.S. Treasury advertisement prepared under the auspices of the Treasury Department and War Advertising Council

Get Higher Availability — Lower Maintenance Expense With This *Newest Type* ENGINE TRUCK

Now In Service on Seven Railroads

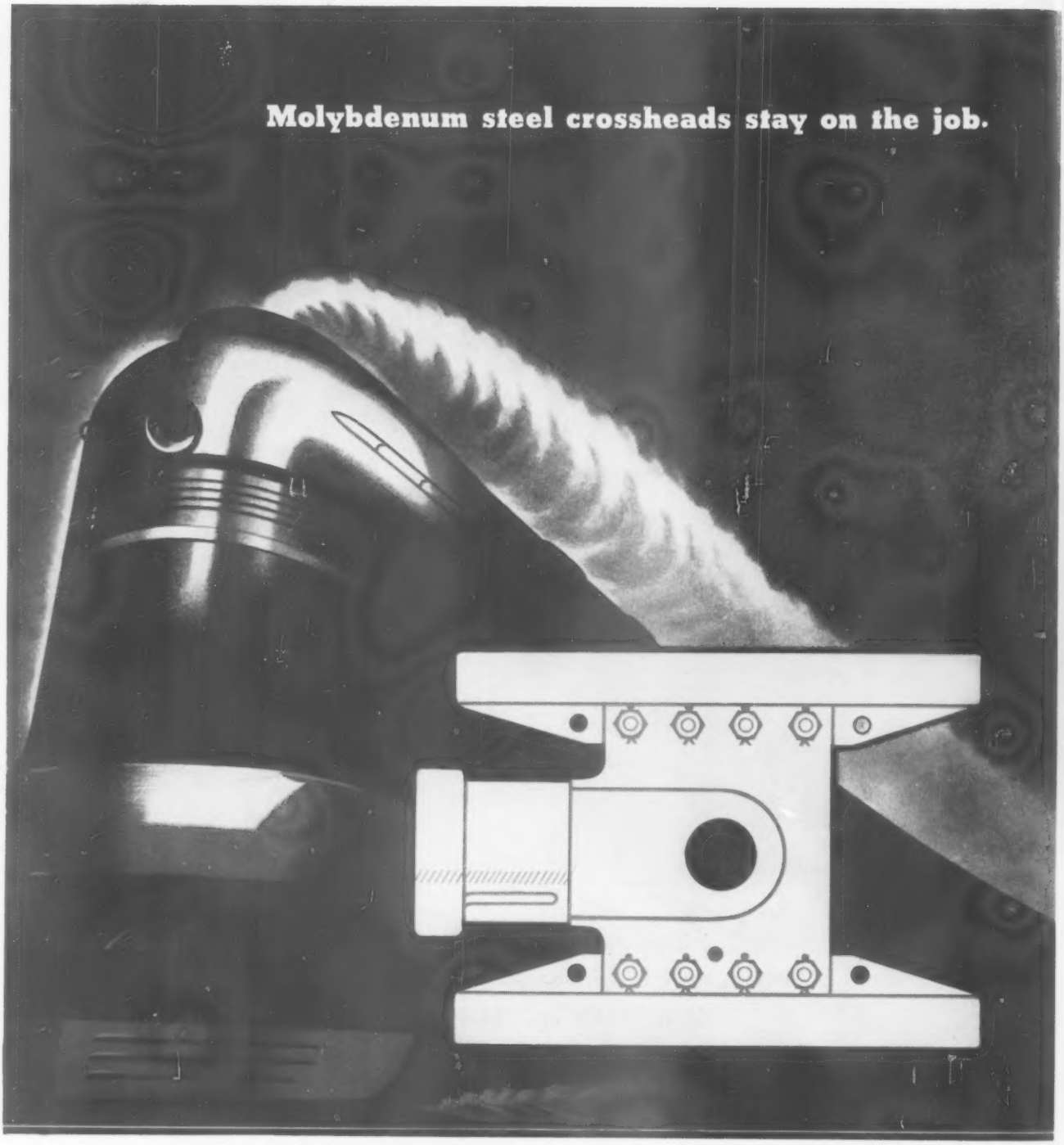
Thoroughly proven and tested in service, this latest type Commonwealth Engine Truck with **COIL AND SEMI-ELLIPTIC SPRINGS** provides important advantages. Among these are the following:

- **Increased spring travel which softens the blows to locomotive and roadbed.**
- **Spring capacity is increased.**
- **Spring breakage is reduced.**

This modern 4-wheel engine truck is furnished with a new **IMPROVED ROLLER TYPE, or ROCKER CENTERING DEVICE.**

GENERAL STEEL CASTINGS

EDDYSTONE, PA. • GRANITE CITY, ILL.



CLIMAX FURNISHES AUTHORITATIVE ENGINEERING DATA ON MOLYBDENUM APPLICATIONS.

ARMY E NAVY

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Climax Molybdenum Company

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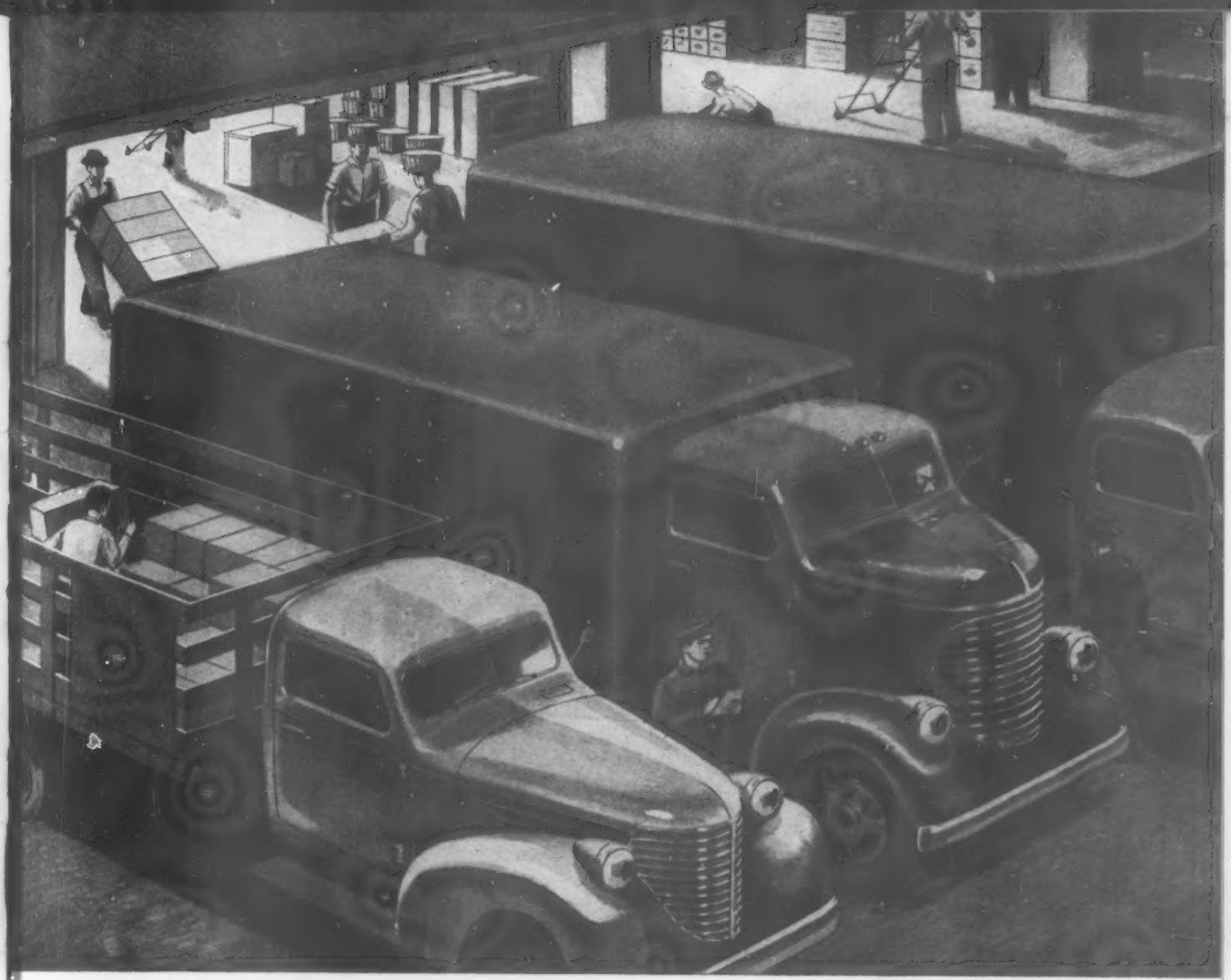


AIR BRAKES STOP 'EM ALL

Heavy or light, there's a genuine Bendix-Westinghouse Air Brake designed especially for every class of service. Naturally your business is different and Bendix-Westinghouse takes this into consideration when it offers a control tailored exactly to meet your individual requirements ★ Consult your local authorized Bendix-Westinghouse Distributor. He's an expert on braking problems whose service has proved invaluable to thousands of operators like yourself. His recommendations you can rely upon and it may surprise you to know that the conversion to genuine Bendix-Westinghouse Air Brakes will be to your distinct economic advantage. At any rate, it will pay you well to investigate this time tested power-to-stop which bears the unqualified endorsement of the nation's leading manufacturers and operators.

BENDIX-WESTINGHOUSE AUTOMOTIVE AIR BRAKE COMPANY . . . ELYRIA, OHIO

Bendix-Westinghouse

AIR BRAKES

AND PNEUMATIC CONTROL DEVICES

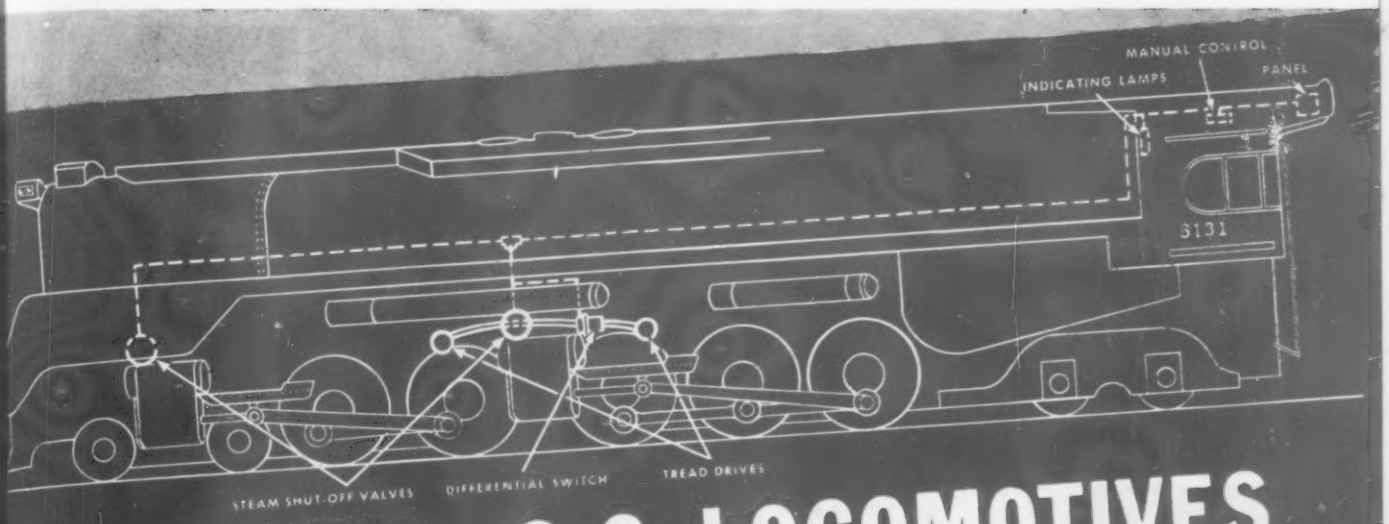
IT IS SIGNIFICANT THAT AMERICA'S FINEST MOTOR TRUCK FLEETS ARE EQUIPPED WITH BENDIX-WESTINGHOUSE AIR BRAKES

NOW...

THE AMERICAN BRAKE SHOE CONTROLLER applied to the PENNSYLVANIA RAILROAD

• Top or bottom indicating lamp lights when slipping occurs.

4Y33



POWERFUL Q-2 LOCOMOTIVES

The American Brake Shoe Company takes pride in announcing that the American Brake Shoe Controller has been employed as the actuating means to automatically prevent slipping on the 26 new Q-2 locomotives recently placed in service by the Pennsylvania Railroad.

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The Mechanical Department of the Pennsylvania Railroad has developed an automatic steam shut-off valve for these Q-2 locomotives which works in combination with the American Brake Shoe Controller.

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Westinghouse Air Brake Company

Wilmerding, Pa.

Railway Age

With which are incorporated the Railway Review, the Railroad Gazette, and the Railway Age-Gazette. Name registered in U. S. Patent Office.

Vol. 119 December 22, 1945 No. 25

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The Railway Age is indexed by the Industrial Arts Index and also by the Engineering Index Service.

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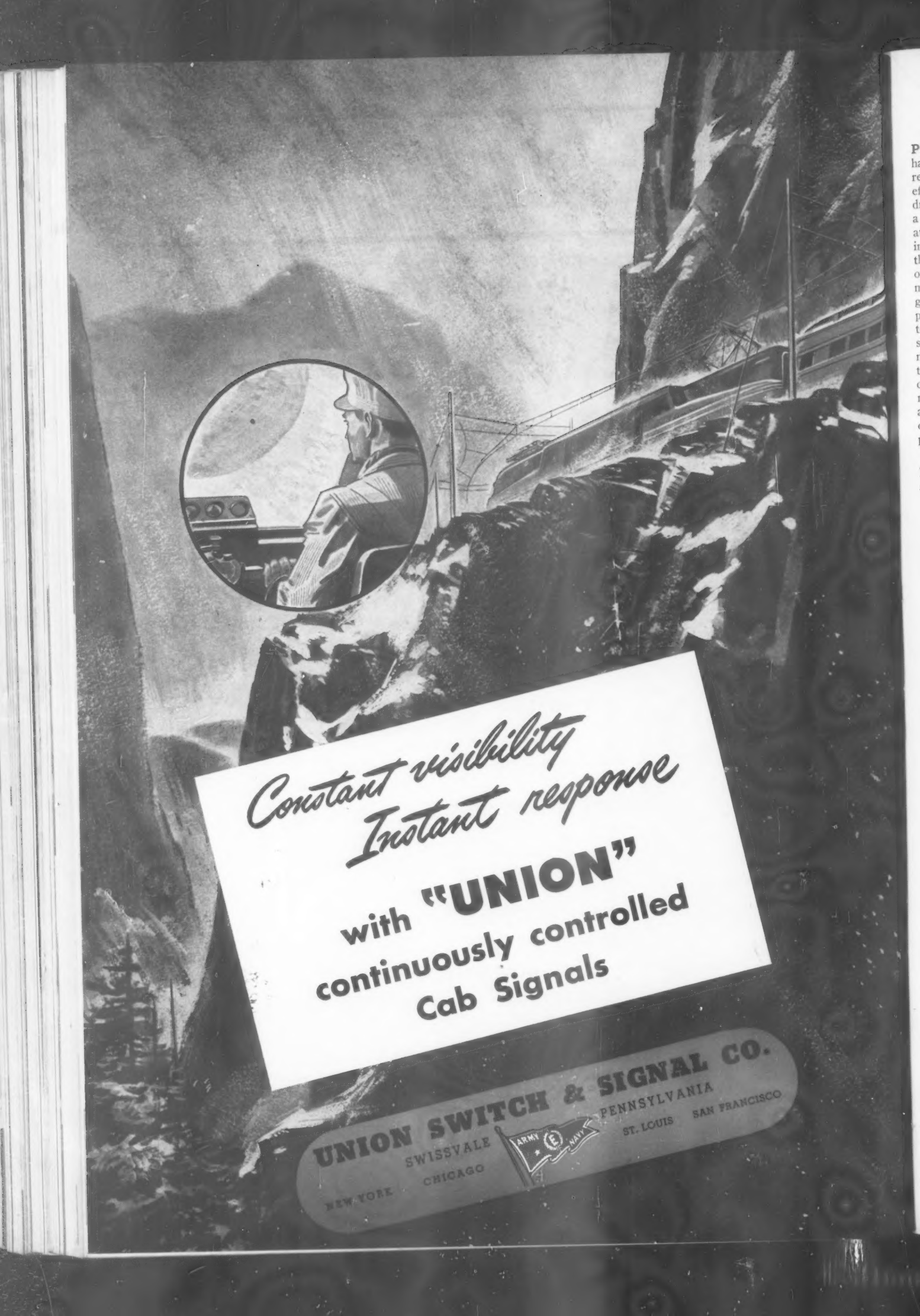
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The Week at a Glance

PERSONALIZED REPORTS: What has been done and can be done, with a relatively small expenditure of money and effort, to metamorphize the traditionally dry and stilted railroad annual report into a colorful, attractively arranged, illustrated, attention-compelling document is suggested in an article this week by a specialist in the design and preparation of statements of this character. Examples are given of maps, graphs, cover designs, and photographs used in recent railroad reports to present their story in a form that is intended to appeal to the garden variety of stockholder, who is neither a statistician nor an economist. In the development of these necessary publications into a means of impressing on the consciousness of the railroads' owners their peculiar political and financial position in the present economy, the author sees a fertile field for profitable public relations enterprise.

●

FIGURE-8 WARNING: A description appears in this issue of the automatic figure-8 oscillating red warning lights installed at each end of the North Western's Twin Cities "400." These lights are designed to go into action automatically if the train makes an emergency stop, as they are actuated by any sudden release of brake pressure, and they throw warning beams visible over long distances either by day or night, supplementing other safety provisions.

●

BIGGER BACKLOG: Latest available figures on the movement of returning service men through the Pacific coast ports, appearing in the news pages herein, indicate clearly enough that the Army's shore facilities in that area and the supply of passenger cars which the planners in Washington have made it possible for the railroads to provide are both inadequate to handle the load expeditiously. To occasional comment that "civilian" travel continues while the returning veterans jam the West Coast harbors or cross the Rockies in coaches, Colonel Johnson pointed out that military personnel occupied 90 per cent of both seat and berth space on all trains leaving western terminal cities. How much of the remaining 10 per cent was held by service men's families and government employees was not revealed. Meanwhile, the O. D. T. has put out an order requiring all western lines to handle deadhead and loaded troop train equipment at regular passenger train speeds, and eastern roads report their compliance with A. A. R. requisitions for more coaches for troop trains.

●

THREE CHALLENGES: Another optimistic analysis of the railroads' post-war prospects—from a source closely and practically acquainted not only with their actual present condition but with their record of performance and the difficulties that challenge them—appears in this issue as a further development of the theme expounded in last week's issue by Dr. Joseph B. Ennis. Speaking from the viewpoint of the engineering staff particularly, C. H. Mottier of the Illinois Central told the Maintenance of Way Club of Chicago that three fundamental achievements must be accomplished by the industry if it is to make the most of its opportunities: the evolution of the art of transportation must go on ceaselessly; sources of traffic must be expanded; and better relations with employees and customers, and the public generally, must be developed and maintained.

●

"NATURAL AND OBVIOUS": The special court to which was assigned the task of passing on the decision of Pullman, Inc., to accept the railroads' offer for the Pullman sleeping car business, following its separation decree, apparently has confounded some of the ardent anti-monopolists now or formerly employed by the Department of Justice by doing the "natural and obvious" thing—that is, sanctioning the deal. As the railroads have the legal responsibility to provide sleeping car service, it did not appear to the judges to be an unreasonable proposition that they should be allowed to own and control the cars used for that purpose, either individually or jointly. Whether the determination of the anti-trust division's lawyers to gratify their passion for "competition" at all costs will lead them to seek a reversal of this decision in the Supreme Court was not certain when this issue went to press, but the special court presumably anticipated that possibility in attaching certain conditions (specified in the news pages) to its approval of Pullman's sale.

●

7,987 I.HP. ENGINE: General dimensions and distinctive characteristics of the Pennsylvania's newest freight power, the non-articulated 4-4-6-4 design designated as Class Q-2, are the subject of an illustrated article herein. An exceptional feature of this locomotive is a set of butterfly valves, controlled through a differential electric switch, whereby slipping of either set of drivers is automatically arrested by cutting off the steam supply until the speed is slowed to that of the working drivers, at which point power is restored.

●

LIGHTER TRUCKS: That further opportunities to reduce weight, and at the same time to obtain maximum riding comfort and safety in service, can be found in experimental new designs of 4-wheel trucks for lightweight passenger cars is pointed out in an editorial discussion this week. Data derived from a comparison, on a percentage basis, of weights of the principal parts of "standard" and lightweight coaches indicate that a great deal still must be done to reduce the weight of some essential components before their makers have accomplished as much in this direction as the builders of the car shell and frame have done. Although truck designers have attained substantial results in reducing weight while improving the reliability of their product, they can do more, and it is suggested that the cooperation of more railroads in testing experimental types and modifications would be very helpful.

PRICE OF PEACE: If there is any magic formula for the peaceful resolution of disputes between employers and employees over wages and working conditions, it is to be found, not in the language of the Railway Labor Act, or of any other legislation that is likely to be enacted, but in the adoption of a resolute policy of complete objectivity on the part of the federal government. As the leading editorial this week points out, the relative freedom from strikes that the railroad industry has enjoyed for many years resulted in the pre-Roosevelt era from the operation of true collective bargaining processes; while during the Roosevelt regime it resulted from the exaction from the employers, through administration pressure, of concessions that were not recommended by the "fact-finding" boards set up under the Railway Labor Act but were demanded by union leaders determined to capitalize on Presidential partiality.

●

A MODEL FOR INDUSTRY: While there is nothing about the Railway Labor Act that guarantees peaceful settlement of wage disputes—the guarantee, insofar as there can be one, rests instead in a conviction on the part of the parties involved that the government is not going to take sides, but is going to make the machinery work as it was intended to work—there is one feature of railway labor law that might advantageously be taken as a model in shaping labor legislation for industry generally, it is suggested. That feature is the statutory prohibition of the closed shop in the railroad industry, a provision which the railroad unions have supported.

●

RATE LITIGATION: Evidence—if more was required—that the "uniform" class rate controversy hasn't been settled by the I. C. C. decision in its No. 28300 case appears in the current news. The Supreme Court has named a special master to take testimony and hear counsel in the *Georgia vs. P. R. R.* suit by which Governor Arnall appears to be seeking rate "equalization" by judicial decree, and nine Official Territory states are exhibiting a serious determination to exhaust all legal means to prevent the application in that section of the interim class rate increases ordered by the commission.

●

KENDALL'S LETTER: During the period from November 1 through December 6, eastern and southern roads delivered to their western connections an average of 1,141 empty box cars daily to meet the fall peak demand for equipment to handle the grain crop. This record of railroad joint action (the sort of action a few government lawyers want to outlaw for reasons best known to themselves) is set forth, along with other significant data about the current state of the car supply, in a review in this issue's news pages of Car Service Division Chairman Kendall's monthly report on the national transportation situation. Except for the usual holiday drop, Mr. Kendall expects freight loadings to continue at a high level.

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WHERE IT IS NEEDED MOST

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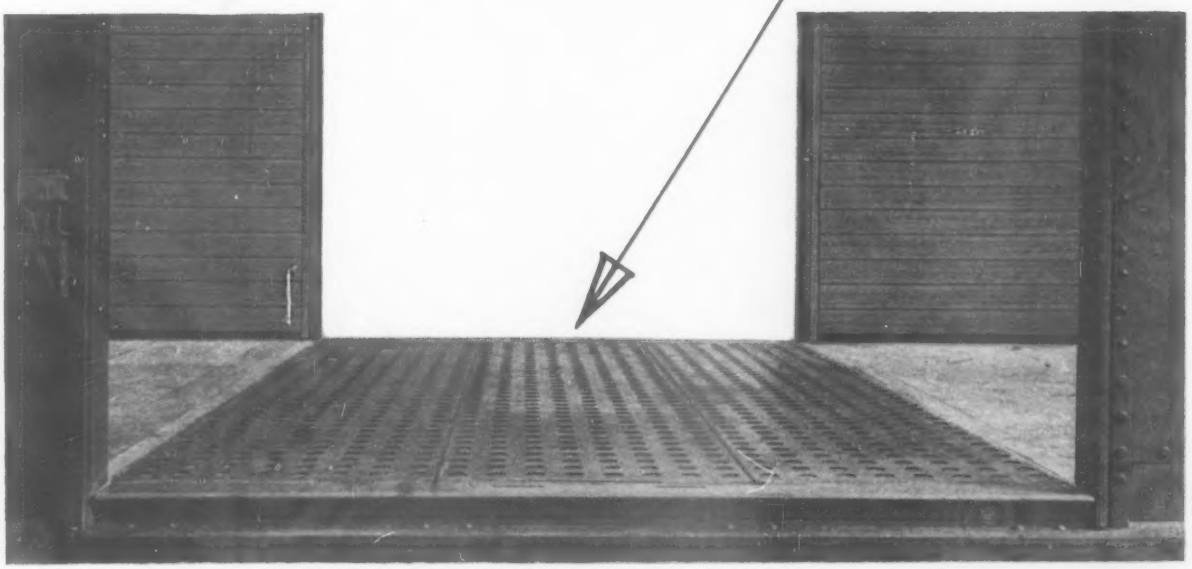

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RAILWAY AGE

Railway Labor Act Is No Magic Formula

It is remarkable what a reputation the Railway Labor Act and its "fact-finding boards" have attained as an industrial peace-maker, compared to the actuality of their accomplishment. It is true that there have been relatively few strikes on the railroads since the enactment of the present Railway Labor Act. It is also true, however, that there were few strikes before the Act was adopted. There are organized employees on the railways today of forty or more years' service who have never actually been called out on strike in all that time—less than 20 years of which has been under the regime of the Railway Labor Act.

The only major railway strike which has occurred in a quarter-century was that of the federated shop crafts in 1922. The unions lost that strike, because at that time the federal government neither threatened to intervene in behalf of the strikers, nor actually did so. The result was that there was thereafter no threat of serious labor trouble on the railroads for more than a decade—in fact, not until a political administration came into power which openly sided with the unions in all conflicts and thus made it competitively impossible for union leaders not to adopt a more truculent attitude.

If lessons are to be drawn from the experience of the railroads as a guide to the achievement of harmony in industrial relations, there is none their experience offers more emphatic than this, namely, that *the knowledge that the federal government is not going to take sides —so neither disputant can know for sure which one is going to win a strike—is the most effective device for peace which can be conceived.*

In the 1920's, several years after the shop strike had failed, the unions were granted wage increases by the railroads by peaceable and friendly collective bargaining. Similarly, in 1932, the unions voluntarily accepted a 10 per cent wage reduction, and, a couple of years later, the wage reduction was rescinded—all without formal governmental intervention. In 1937 advances in wages resulted ostensibly from collective bargaining, but largely as a result of covert pressure from government. Thereafter, however, the Administration having made it crystal clear that it was on the side of the organizations, it became no longer possible, usually, to settle these disputes by collective bargaining. It was an "emergency board" which awarded the wage increase in 1937 and another one which refused to reduce wages in 1938—the railroads knowing full well that *they* dare not refuse to abide by an "emergency board's" findings, the political climate being what it was.

In 1941, just before Pearl Harbor, another "emergency board" made a generous wage increase award to the railway unions, and the unions repudiated it. A strike was prevented only when President Roosevelt (failing, as the Railway Labor Act contemplated, to support with the prestige of his office the board decision) asked board members to serve as mediators to extract sufficient additional concessions from the railroads to placate the dissident brethren. One does not have to stretch the imagination far to picture what Jovian wrath would have struck the railroads at that time if it had been they and not the unions who had spurned the "emergency board" findings.

Since that time—notably at the time of the Army's seizure of the railroads at the end of 1943—the machinery of the Railway Labor Act has had little effect in preserving harmony in labor relations on the railroads. The unions again toward the end of 1943 rejected findings of "emergency boards" and were prevented from striking in the midst

of war only by government seizure of the railways and the granting of concessions much larger than the boards had recommended. The device that has kept the peace has been the willingness of the railroads to concede more, even, to the unions than "emergency boards" named by the Administration have deemed just or expedient. Unless Mr. Truman is going to support the awards of his proposed "fact-finding" boards in industry more vigorously than Mr. Roosevelt did those he named for the railroads, then the legislative labor necessary to establish these boards might better be conserved for some more useful purpose. If the only ultimate means of maintaining peace is to be the expedient now enforced on the railroads, viz., the making of such concessions as are necessary to induce the unions not to walk out, then industry can make these concessions without any "fact finding" boards as a half-way house on the road to capitulation.

Superficially, the merits of the "fact finding" device are plausible, but only by the specious argument that because one event follows another, the first is the cause of the second. A more careful scrutiny of the experience of the railroads and their employees in achieving peaceful relations would reveal that a scrupulous objectivity by government, making both sides fearful of a strike and hence determined to settle their disputes by collective bargaining, would do far more to promote peace than any amount of "fact finding." Such scrupulous governmental objectivity would include strict enforcement of all laws, including those for protection of property and persons from violence. Also, if railway labor relations are to be held up as a model for industry, why omit to draw notice to the really unique feature of railway unionism—that is, that the closed shop is expressly forbidden by law in the railway industry, a clause inserted with the active agreement of the unions themselves?

Don't Overlook the Trucks

There are three things in connection with modern passenger-car trucks which should not be overlooked: namely, that manufacturers deserve a lot of credit for reduced weight, greater ease of riding and reliability, already attained; that still further improvements in the first two of these particulars, at least, are both possible and necessary; and that the four-wheel truck has fully demonstrated its fundamental safety in operation and ability to meet all requirements, except where heavy axle loads necessitate the use of six-wheel trucks. These and many other pertinent facts about passenger-car trends in the coming year were brought out in a discussion of this subject at the A. S. M. E. Railroad Division annual meeting at New York on November 29.

One point emphasized was that the car shell or frame accounts for only about 35 per cent of the total weight of the car and car builders, therefore, are not in a position to effect maximum reduction in total car weight without the help of material and specialty suppliers, many of whom feel that their products constitute such a small percentage in weight of the car that it is not particularly important to make them lighter. Experienced car designers and builders at the meeting said this attitude is all wrong; that the weights of detail car parts must be figured in ounces, not pounds; and that specialty manufacturers should consider not the small proportion which individual products sometimes constitute of the total car weight, but what percentage reduction has been made in the weight of these products, themselves, in the last few years.

Some interesting figures presented along this line show the following percentage weight savings in various parts of a modern lightweight passenger coach as compared with a former conventional heavy coach: Car frame, 46.5 per cent; finish and floor, 41 per cent; insulation, 44 per cent; air conditioning, heating and electrical equipment, 0.4 per cent; body specialties and miscellaneous, 22.6 per cent; and trucks, 23.4 per cent. A comparison of these figures indicates that creditable weight savings have been effected in car frames, inside finish, floor and insulation, almost none in air-conditioning, heating and electrical equipment and only moderate savings in body specialties and trucks.

One of the principal opportunities for saving weight in trucks has been the general adoption of four-wheel trucks for lightweight cars. This truck has proved by extensive service in the last 12 years to be as safe as a six-wheel truck, much easier riding, roughly 12,000 lb. lighter and $3,000 lower in cost per car set. This is the result of extensive, continuous research by railroads, manufacturers of truck parts and car builders. Experimental new designs now being developed promise still further improvements in riding qualities and other desirable characteristics. It would be helpful if more railroads showed a willingness to test these improved new passenger truck designs while still in the experimental stage and thus promote earlier general adoption of those which demonstrate merit. Only in this way can maximum riding comfort, insofar as it is influenced by truck design, be secured in railway equipment with the least possible delay.

Along with track conditions and speed control on curves, truck design constitutes a major factor in riding ease and railroads ought to capitalize the efforts of truck designers and builders promptly and to the fullest extent possible in endeavoring to meet the keenly competitive conditions in the passenger transportation field which loom immediately ahead.

Time for Courtesy

"Life is not so short but that there is always time for courtesy."

When Ralph Waldo Emerson said that, he did not have present-day railroading in mind, but his observation is none the less applicable to December, 1945.

It would be unfair to criticize railway employees unduly for lack of courtesy under the stress of war-time conditions, but there is no excuse for discourtesy now. War nerves are no reason for gruffness; as a matter of fact, an hour's inspection recently of a large consolidated ticket office indicated that the clerks wearing Gold Eagle buttons were definitely more patient and courteous on the average than those who had not seen service with the military forces.

The need for employee training in this direction is obvious, as has been noted from time to time in these

columns, with a detailed summary of what the railroads have done along this line in our Passenger Progress Annual issue of November 17. The primary step in making employees conscious of the need of courtesy is, of course, the setting of a proper example by supervisory forces. Verbal instruction, either formal in the various schools which the railways have established for this purpose, or informal in the course of general conversation, is highly important, but this should also be supplemented by a visual instruction in the form of placards, pamphlets, etc.

In pursuance of the policy of visual instruction, the Baltimore & Ohio delegated Don Herold, famous cartoonist, to prepare a booklet on courtesy last spring, and the results were so successful that another booklet has just been issued under the title "A Fan Letter to B. & O. Employees About Their Courtesy." This booklet contains attractive drawings and also suggestions as to how to handle railway customers who buy both freight and passenger transportation. Importantly, it also includes numerous examples of letters which the B. & O. has received, patting the railway and its employees on the back for courteous service. The booklet will be distributed to all B. & O. employees coming in contact with the public.

The railways made many friends for themselves during the war by their notable efforts in war-time transportation. Customers' memories, however, are notoriously short and the present attitude of favorable public sentiment can be maintained only through definite efforts on the railways' part to assure its continuance. Stressing courtesy should be an important part of any such campaign.

Claim Prevention Can Be a Traffic Builder

Preliminary estimates of loss and damage payments indicate that careless handling, improper loading and faulty packaging will cost the railroads approximately $100,000,000 in 1945—equivalent to more than the net income for two whole months at this year's average earnings. This figure does not include, of course, the loss to shippers and receivers of freight by reason of disrupted production schedules, re-ordering, and similar inconveniences.

Every railroad traffic representative, local agent, or freight claim agent has found it necessary to attempt to placate an angry customer because of some shipping failure. Frequently the solicitor or agent attempts to regain the good-will of his patron by recommending immediate payment of a claim without proper investigation. Such a course, however, brings only temporary relief, for it attacks the results rather than the cause. No amount of legally valid freight claim payments can recompense a customer for his indirect losses in increased clerical expense, interruption to production schedules, or failure to make prompt delivery of merchandise he has sold; and, if the shipping failure is repeated, the patron of the railway is usually forced to take his business elsewhere or faces the loss of his own customer; in either case at a permanent loss to the railroad.

Analysis of the underlying causes of loss and damage to freight reveals that one of the major factors is faulty packaging. While it is known that this condition is partly due to shortages of wood-pulp which prevent the manufacturers from using cartons as strong as the prewar variety, it is also true that many shippers have not made the best use of such containers as have been available, while others have not used loading methods required to insure safe transportation.

To combat these conditions, while at the same time rendering a genuine service to its patrons, one of the largest western railroads recently has added to its staff a container engineer, a man whose training and experience embrace the packaging and shipping of various commodities in both domestic and foreign trade. The duties of this man, who is a permanent, full-time employee of the carrier, consist primarily of aiding the road's patrons to overcome their shipping problems by working with them and studying their packaging, marking, billing and loading procedures. Similar positions have also been established by two eastern carriers.

This constructive step not only offers an unusual opportunity to effect a reduction in the tremendous toll of loss and damage payments but it also looks toward the ending of one of the principal sources of ill-feeling between the carrier and the shipper. In the coming struggle for a larger share of the nation's freight traffic the railroads will need every bit of customer good-will they can develop. Working with the shipper to see that his goods arrive at destination safely and in good order is one of the most certain ways to build that good-will.

Manufacturers' Program for Prosperity

"If permitted, industry will encourage and assist the worker to build his own security out of savings from his own production. Industry must work to regularize jobs for employees and to increase workmen's security by widening the margin between the income he receives and the living costs he pays.

"True security comes from the production of goods and services. It can always be obtained by producing goods which the public wants at prices the public is willing to pay. This production can be assured through competition and free markets and protection of incentive to work and produce. It is this production that provides purchasing power to buy the produced goods. The government can pump wage increases into the economy, but unless production of goods is created for the wages paid, the result is only inflation of money and lack of security.

"Too many of those who today determine and administer government policy talk public welfare, criticize every one who disagrees with them, and then design policies that perpetuate special privilege and curtail production.

"They say the American public favors price controls. They say goods are scarce, so controls must be continued. They should say that goods are scarce because price controls make it impossible to produce them. They say that only the government stands between the public and inflation. They should say that primarily it is government policy, past and present, that today is responsible for the inflation we have up to now, and the danger of more inflation that impends.

"At the war's end, the world is sick. Ally and enemy alike look to American enterprise for help. To those nations that will organize full production, help should be given. Their production will make them self-reliant customers and friends."

—President R. R. Wason of the N. A. M. in His Acceptance Address, December 7

Pennsylvania Q-2 Freight Locomotives

New design, with 4-4-6-4 wheel arrangement, built at the Altoona Works has 100,800-lb. tractive force and a boiler evaporation of 137,479 lb. water per hour at 57.4 m. p. h.

THE Pennsylvania Railroad recently completed at its Altoona, Pa. Works, the last of 26 locomotives of the 4-4-6-4 non-articulated type. These locomotives, known as the Class Q-2, were designed by the railroad's engineering staff, for fast and heavy freight service.

The four-cylinder, rigid-frame locomotive has been studied by the Pennsylvania for several years. The 6-4-4-6 passenger locomotive exhibited at the New York World's Fair, the first to go into service on the Pennsylvania, was soon followed by the Q-1 freight locomotive, and later by the 4-4-4-4 T-1 Class, 50 of which are now under construction. The present Q-2 is a larger and much more powerful freight engine than the Q1, and has both sets of cylinders placed ahead of the wheels they drive. This simplified the rear crosshead guide construction and permitted a deeper firebox than was possible on the Q-1 locomotives, the rear cylinders of which were placed at the front of the firebox.

The principal advantages of splitting the driving gear into two units are (a) reduction of piston loads and weight of revolving and reciprocating parts, (b) reduction in machine friction due to the reduced number of connected wheels, (c) the use of shorter stroke, resulting in lower piston speeds, and (d) the use of four steam chests enables the designer to provide liberal steam and exhaust port areas. This improves cylinder performance at high speeds.

A distinctive feature of the Q-2 locomotive is a device for automatically arresting the slipping of either set of drivers and restoring the power to the slipping engine as soon as it has slowed down to the speed of the non-slipping engine. This is accomplished by means of butterfly valves located in each of the four main steam pipes. The operation of these valves is controlled by a differential electric switch which admits air to the butterfly-valve operating cylinders of the slipping engine only. The differential switch is driven by small wheels running on the treads of one No. 2 and one No. 3 driving wheel. When the slip is arrested the air supply is shut off and the steam pressure in the steam pipes opens the butterfly valves to restore power.

Q-2 locomotive No. 6175 has undergone a complete series of tests on the Altoona test plant, during which the estimated performance was exceeded. A A maximum of 7,987 i. hp. was developed at 57.4 m.p.h. Maximum evaporation was 137,479 lb. of water per hour, or 39 per cent more than the Pennsylvania's Mountain Type M-1a locomotive. The overall efficiency of the Q-2 locomotive measured at the drawbar was 25 per cent higher than the M-1a locomotive, of which 12 per cent is credited to the four-cylinder driving gear arrangement and the balance to the boiler. At the highest boiler rate the smokebox gas temperature of the Q-2 locomotive was 655 deg. F. Coal consumption per drawbar horsepower hour varied from 2.75 lb. to 3.60 lb. between speeds of 49.2 and 50.6 m. p. h., depending upon the cut-off position.

The Boiler and Accessories

The boiler of the Q-2 locomotive is of special interest because of its size and efficiency. It is one of the largest locomotive boilers ever built and showed a combined boiler and furnace efficiency under test of 49.8 per cent when evaporating 137,479 lb. of water per hour and 64.4 per cent at a lesser rate. It has a firebox heating surface—including a 123-27/32-in. combustion chamber and a total of nine Security circulators—of 725 sq. ft. The tubes and flues add 6,000 sq. ft. more and the Type E single-loop Elesco superheater 2,930 sq. ft.

This makes a total evaporative and superheating surface of 9,655 sq. ft. With a grate area of 121.7 sq. ft. this boiler evaporated on the test plant 137,479 lb. of water per hour.

The boiler is the Belpaire firebox type with a three-course barrel utilizing carbon-silicon steel sheets 1 in thick. The first course is conical and the maximum outside diameter, at the front of the combustion chamber, is 106 in. The firebox is 162 in. long and 108-3/16 in. wide. There are six circulators in the firebox and three in the combustion chamber. Near the rear of the combustion chamber there is a corrugation in the sheet around approximately three-quarters of the combustion chamber circumference to allow for lengthwise expansion and contraction. The firebox has an installation of Flannery flexible staybolts in the breaking zones, back head, throat sheet and combustion chamber. The furnace sheets are welded and the firebox and barrel seams are seal welded.

Water is fed to the boiler by a Worthington 6½ SA feedwater heater having a capacity of 120,000 lb. per hr. and a Sellers SY injector, on the left side, with 132,000 lb. capacity per hr. The injector delivery pipe is located inside the boiler and admits water at a point about 30 in. back of the front flue sheet, above the flues.

Fuel is fed to the firebox, which is equipped with Firebar grates, by means of a Standard HT stoker. The firedoor is the Franklin Butterfly type.

Frames and Running Gear

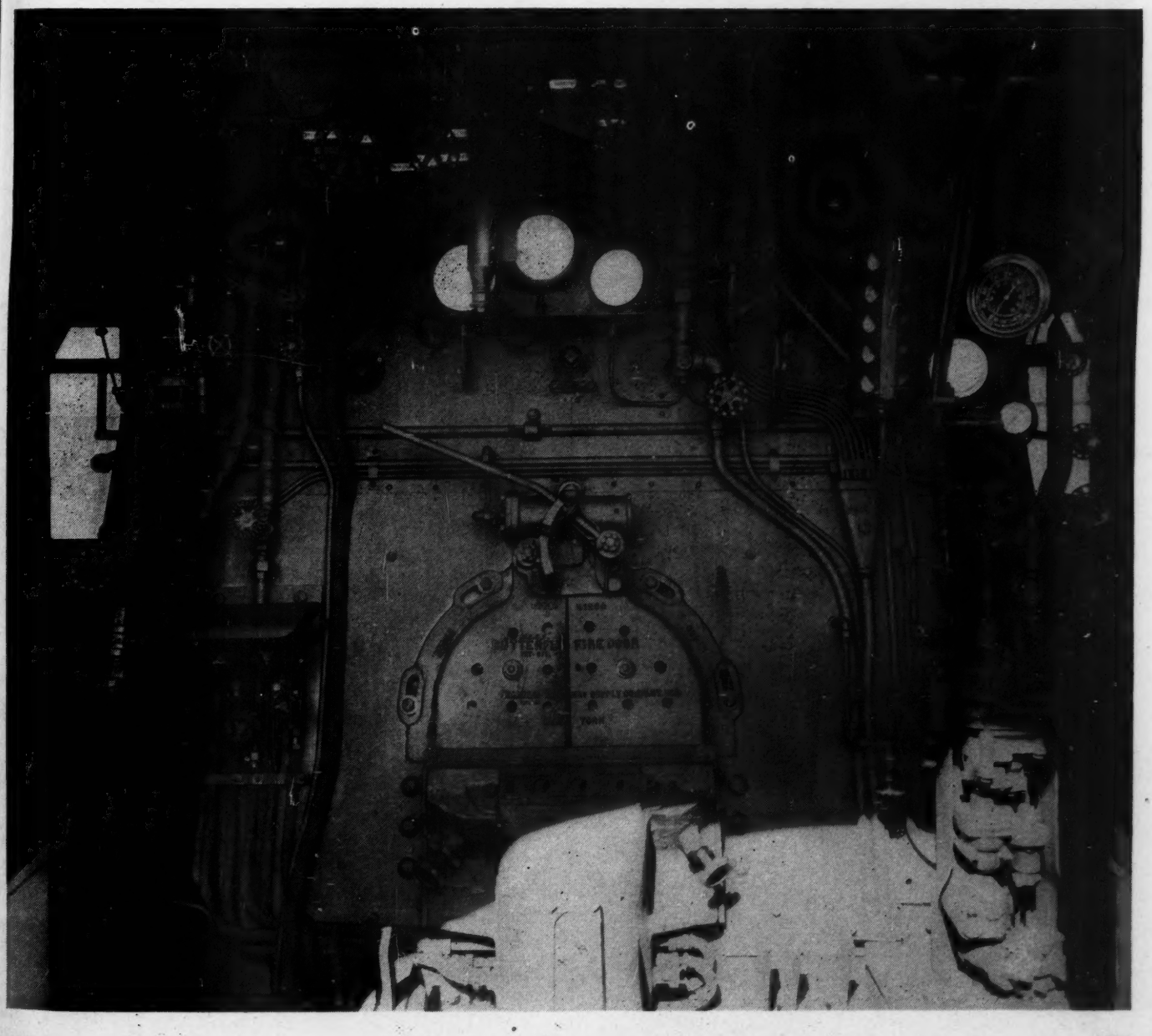
The engine bed, supplied by the General Steel Castings Corporation, embodies the frames, crossties, cylinders and back heads. The connection of the cylinders to the bed, between the No. 2 and 3 drivers, is necked in such a manner that the distance normally between these drivers is reduced, permitting the total wheelbase to be shortened approximately 15 in. The distance between cylinder centers at the front engine is 92 in. while for the rear engine it is 95½ in.

The engine and trailer trucks are each four-wheel trucks, with 36-in. wheels on the front truck and 44-in. on the trailer. The trailer is equipped with the Franklin Type E booster. All driving engine and trailer truck, and tender axles are equipped with Timken roller bearings.

The four-wheel engine truck is equalized with the drivers of the front engine and the rear engine drivers are equalized with the trailer truck. Helical springs, in combination with leaf springs, operate to increase the sensitivity of the equalization system and to cushion the shocks of the leaf springs.

The cylinders of the front engine are 19¾ in. by 28 in. and the rear engine, 23¾ in. by 29 in. Steam distribution is effected by 12-in. and 14-in. piston valves for the front and rear engines, respectively, together with Walschaerts valve gear controlled by Alco power reverse gear.

The drivers are 69 in. diameter with Boxpok centers. The rear drivers of each engine, No. 2 and 5, are the main drivers. Each of these has ½ in. total lateral. The No. 1 wheel of the front engine has 2¼ total lateral and the



front wheel of the rear engine, No. 3 wheel, has ½ in. total lateral. This wheel, however, is equipped with a blind tire. The No. 4 driver has 1⅜ in. total lateral. The Alco lateral motion device is used on all driving axles.

The rods are the I-section design equipped with floating bushings at all pins. A spherical bushing is used at No. 4 wheel and the side-rod bearings for No. 1, 2, 3 and 5 wheels have a radius on the outer bushing to accommodate operation on curves. The main crank pins have the conventional floating type bushings.

The main wheels of the Q-2 are cross-counterbalanced with an overbalance of 100 lb. The resultant overbalance producing dynamic augment on No. 4 wheel is 150 lb. delivered at 22 deg. from a line through the main pin and axle and on No. 1 and 3 wheel this resultant is 160 lb. at 14 deg. The dynamic augment on No. 1 and 3 is 7,670 lb. at 70 m. p. h.

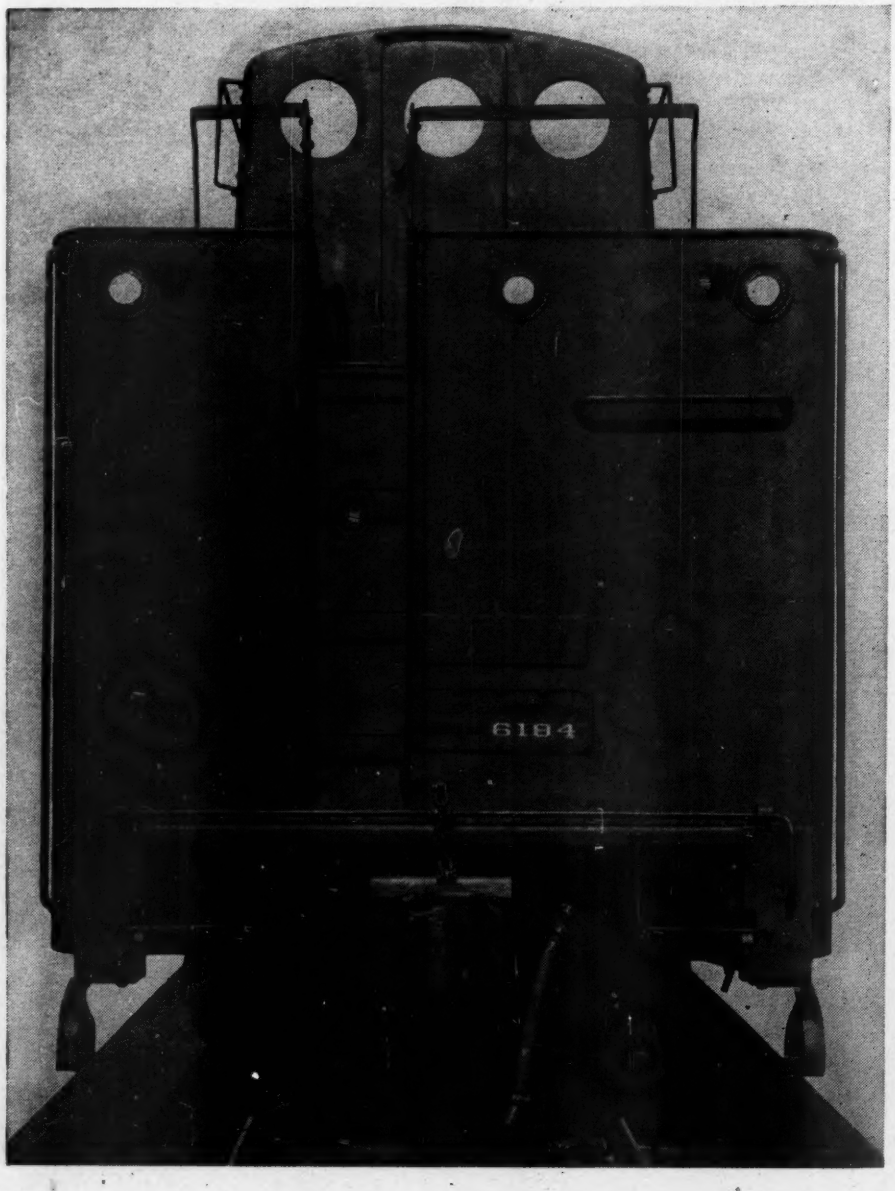
The locomotive is equipped with three Detroit mechanical lubricators, two on the right side and one on the left side. Oil from these lubricators is distributed to cylinders and valves, frame shoes, boiler pads, radial buffer, spring-rigging frame equalizer pins, engine-truck center pin and to the guides.

The brake equipment is Westinghouse No. 8 ET with air supplied by two 8½-in. cross-compound compressors located on brackets at the front of the locomotive.

The tender is of the rectangular type with eight-wheel trucks of Pennsylvania design cast by the General Steel Castings Corporation and water-bottom underframe supplied by the same manufacturer. The coal capacity is 39.87 tons and the cistern holds 19,020 gal. of water. The weight of the tender, fully loaded, is 430,000 lb.

Partial List of Material and Equipment on the Pennsylvania 4-4-6-4 Type Locomotive

Bed frame; engine and trailer truck frames; driving wheel centers	General Steel Castings Corp., Eddystone, Pa.
Lateral motion device, power reverse gear	American Locomotive Co., New York
Driving-axle, engine- and trailer-truck roller bearings	The Timken Roller Bearing Co., Canton, Ohio.
Radial buffer; booster; fire door	Franklin Railway Supply Co., Inc., New York.
Air-brake equipment	Westinghouse Air Brake Co., Wilmerding, Pa.
Brake shoes	American Brake Shoe Company, New York.
Slip control	Pennsylvania Railroad
	American Brake Shoe Company, New York.
Mechanical lubricators	Detroit Lubricator Co., Detroit, Mich.
Grease fittings; clear-vision windows; cab ventilators	The Prime Manufacturing Co., Milwaukee, Wis.
Piston packing rings	American Hammered Piston Ring Division of Koppers Company, Baltimore, Md.
Flexible staybolts	Flannery Bolt Co., Bridgeville, Pa.
Circulators	American Arch Co., New York.
Feedwater heater	Worthington Pump and and Machinery Corp., Harrison, N. J.
Injector	Wm. Sellers & Co., Inc., Philadelphia, Pa.
Boiler check valve	Nathan Manufacturing Co., New York.
Firebar grates	Waugh Equipment Co., New York.
Blow-off cocks; blower valve	The Okadee Company, Chicago.
Throttle valve	American Throttle Co., New York.
Stoker	Standard Stoker Co., Inc., New York.
Superheater	The Superheater Company, New York.
Lagging	Johns-Manville Sales Corp., New York.
Headlight generator	The Pyle-National Company, Chicago.
Train control	Union Switch & Signal Co., Swissvale, Pa.
Tender:	
Truck frames; tender frame; tank bottom	General Steel Castings Corp., Eddystone, Pa.
Roller bearings	The Timken Roller Bearing Co., Canton, Ohio.
Draft gear	Cardwell Westinghouse Co., Chicago.
Couplers	McConway & Torley Co., Pittsburgh, Pa.



General Dimensions and Weights of the Pennsylvania 4-4-6-4 Type Locomotive

Builder	Railroad company
Type of locomotive	4-4-6-4
Road class	Q-2
Road numbers	6131, 6175-6199
Date built	1944-1945
Service	Freight
Rated tractive force, engine, 85 per cent, lb.	100,800
Rated tractive force with booster, lb.	115,800
Weights in working order, lb.:	
On drivers	393,000
On front truck	96,050
On trailing truck	130,050
Total engine	619,100
Tender, loaded	430,000
Wheel bases, ft.-in.:	
Driving	26—4½
Engine, total	53—5½
Engine and tender, total	107—7½
Driving wheels, diameter outside tires, in.	69
Cylinders, front engine, number diameter and stroke, in.	19¾ x 28
Cylinders, rear engine, number, diameter and stroke, in.	23¾ x 29
Valve gear, type	Walschaerts
Valves, piston type, size, in.	12—front 14—rear
Maximum travel, in.	8
Boiler:	
Steam pressure, lb.	300
Diameter, first ring, inside, in.	97 15/16
Firebox length, in.	162
Firebox width, in.	108 3/16
Combustion chamber length, in.	123 27/32
Circulators, number	9
Tubes, number and diameter, in.	51—2½
Flues, number and diameter, in.	277—3½
Length over tube sheets, ft.-in.	21—0
Fuel	Bituminous
Stoker	Standard HT
Grate area, sq.-ft.	121.71
Heating surfaces, sq.-ft.:	
Firebox combustion chamber and circulators	725
Tubes and flues	6,000
Evaporative, total	6,725
Superheating (Type E)	2,930
Combined evap. and superheat	9,655
Tender:	
Style	Rectangular
Water capacity, U. S. gal.	19,020
Fuel capacity, tons	39.87
Trucks	Eight-wheel

Higher Train Speeds Will Require the Railroads to Provide Better Track

The Railroads' Future and the Engineer

An analysis of what lies ahead and how it will affect the work of those in charge of the fixed properties, including an account of how one road is putting its house in order

By C. H. MOTTIER
Vice-President and Chief Engineer, Illinois Central System

THE railroads functioned in World War II far better than they did in World War I and came through it in better shape. Their financial condition has been much improved. Their fixed charges are less, and their cash positions are better than they have been in many years. All railroads, as a result of the heavy war traffic, have enjoyed large revenues in the past four years. High income taxes have skimmed off a large part of the cream but many roads have taken advantage of this profitable period to rehabilitate and improve their properties. To a large degree, this has been necessary to permit them to handle wartime traffic adequately. The permissible amortization of certain capital expeditures has also encouraged them to make valuable additions to their properties.

Because of their improved physical and financial conditions and their demonstrated ability to handle tremendous volumes of traffic economically and efficiently, I am more confident today of the future of the railroads than I was five years ago. In addition, they have demonstrated their essentiality to the American people. The future will reveal if the American public will soon forget the value of the railroads in time of a national emergency. We should not let them do so.

The railroads have three great challenges facing them, and their future will depend largely on how well they meet these challenges. First, they must continue to advance in the never-ending evolution of the art of transportation, and in all of the activities associated with it. Second, they must sustain and, if possible, expand the sources of traffic which furnish their life-blood. Third, they must master the tremendous challenge which faces them in the field of human relations. These, translated in terms of their effect on the maintenance problem, mean that we must continue to develop and maintain better railroads; that we must earn sufficient money to improve and maintain them; and that we must solve our important human relations problems.

The continued predominance of the American railroads as an agency for handling freight is assured. The competitive situation in the passenger field is much more serious and the future of our passenger business is less secure. If a railroad is to plan wisely for the future, it cannot sit idly by for the next several years to observe the pattern fixed by other railroads or by its competitors employing other forms of transportation, for if nothing is done to hold its passenger business it will soon lose it. The public will demand new and modern streamlined equipment operated at high speeds. We will probably have to operate passenger trains at 100 or more miles per hour, and freight trains

This article is an abstract from an address presented before a recent meeting of the Maintenance of Way Club of Chicago.

at 70 m.p.h. Our competitors for passenger travel will force us to give better service at rates low enough to attract mass travel.

What Must Be Done

Much that I have said can be condensed into two significant sentences: First, we will have to operate our trains, both passenger and freight, faster in the future than we have in the past, which will necessitate better track and maintenance standards; and, second, we will have to operate and maintain our properties at relatively lower costs. Both of these will be necessitated by competition. If we do not operate trains at faster speeds and provide service at a very low cost, we will lose a large part of our passenger business. This is not a new picture that is just appearing on the horizon. It has been rather clearly discernible for some time and many roads have been preparing to meet it.

We have felt during the past four years that, as far as the Illinois Central was concerned, lean years were ahead and that those of us in responsible charge must take steps to get our property in shape as quickly as possible to stand the shock of post-war conditions. Our bonded indebtedness has been reduced approximately $100,000,000 in the past four years, and our annual fixed charges more than $4,800,000. Our cash position has also been materially strengthened, and steps are now being taken to improve our capital structure still further.

Some maintenance men in the ranks may not fully appreciate the importance to them of the financial strength of their railroads. If there is no money in the cash drawer, there is no money with which to maintain the property. We on the Illinois Central can testify from practical experience on this point. All of us should be intensely interested in the traffic and revenues of our companies, as they determine the funds available for our work.

In connection with the inauguration of depreciation accounting on our railroad, effective January 1, 1943, and in conformity with special arrangements made with the Bureau of Internal Revenue, we combed the railroad thoroughly in the three-year period of 1942-44 and retired every facility that was not needed to handle the business. In this program, 3,300 items of fixed property, with a value of $13,000,000, were retired.

In addition to this special program we also retired seven unprofitable branch lines with a total length of 154 miles. On four of these branches, government requisitioning of rail for war purposes hastened the retirement. One of these lines, 57 miles long, had 0.5 of a mile of steel bridges and 2.7 miles of timber trestles. From a bridge maintenance standpoint, it was our most expensive branch line. These abandonments materially added to the streamlining of our railroad and will save us much future maintenance.

During this same three-year period we conducted a bridge-filling program. Every timber bridge on the railroad where there was any possibility of reducing the size of the opening was carefully studied and, when possible, was either shortened or replaced with pipe and fill. In this program we have filled 651 timber bridges of an aggregate length of more than 10 miles. If we add to these the more than six miles of bridges on the 154 miles of unprofitable branch lines abandoned, we have eliminated in this period the expense of maintaining 16½ miles of bridges.

The magnitude of this accomplishment can be appreciated better when it is realized that these 16½ miles of bridges represent one-tenth of the total mileage of bridges in existence on the Illinois Central on January 1, 1942. The saving in maintenance and the reduction of fire hazards, resulting from this bridge-filling program are substantial. To date we have had but one minor drainage complaint resulting from the bridge-filling program. This was due to an inadequate opening and was satisfied by installing an additional 32-in. by 36-in. box alongside the 24-in. pipe installed when the bridge was filled.

Property in Better Shape

During the depression it was necessary to confine practically all of our expenditures to the track structure. In the last four years we have greatly improved the condition of our bridges, buildings, mechanical facilities, signals, interlocking plants and track structure. We are still deficient in certain materials and facilities which could not be replaced due to the war-time restrictions. This is particularly true of rail and coaling stations.

In addition to the foregoing programs we have, in the last three years, spent $16,000,000 on fixed property, chargeable to capital account, in order adequately to handle the enlarged volume of traffic due to the war. However, in the same period we have retired in excess of $19,000,000 of fixed property, resulting in a net reduction in capital account of approximately $3,000,000. In spite of the fact that in this period we have built one new yard, with 27 miles of track, and have enlarged several other yards, and built and extended numerous sidings, we have today 217 miles less track to maintain than we had at the time of Pearl Harbor.

While there is still much to be done, we have emerged from World War II in far better shape than we were four years ago. Also, even though we have made reductions in our capital account, we now have a railroad of greater traffic-handling capacity than ever before.

The Maintenance Problem

Let us now take a closer look at our future maintenance problems. We have spoken of the necessity of increasing the speeds of trains. What effect will this have on maintenance?

We will require a better railroad and will have to maintain it better for the higher speeds. One of our problems will be to decide where we are economically justified in developing and maintaining high-speed tracks. On the Illinois Central we have over 3,200 miles of railroad on which passenger service has been abandoned. Under future conditions, there may be additional lines where passenger service will not be profitable. On most of the other mileage, however, passenger service must be continued. On some lines where passenger service has been abandoned, as much revenue can be produced by operating freight trains at 25 m.p.h. as at 70 m.p.h. We can economize by spending less on these lines. In the old days we spent almost as much per mile in maintaining branch lines as we did on main lines. The depression has taught us much. We now maintain our property in accordance with the need, the service requirements, and the funds available. In the future we will have to consider this relationship even more critically.

With higher speeds we must have better track to reduce accidents and to add to passenger comfort. Most roads are meeting this problem by devoting attention to every phase of the track structure. They are stabilizing the roadbed, improving the ballast condition, and installing larger ties, larger tie plates, heavier rail, and longer joint bars. On the Illinois Central we have been doing all of these. The proper design of track to carry trains at a given speed, which also involves consideration of the curvature, superelevation, spirals, etc., will probably be given even more attention in the future than in the past.

The operating department can help to simplify our speed problem and can do much to expedite the movement of trains over the road. Most train schedules are built around certain objectives. As train stops are increased in number or duration, or both, and as speed restrictions are added, other things being equal, it becomes necessary to speed up the trains between stops if the same over-all schedule is to be maintained. From the trackman's point of view, the ideal situation would be to reduce station stops and eliminate delays so that the speed need not be maintained at so high a rate between stops. One-stop coal, sand and water facilities may expedite train movements. Operation by signal indication will reduce delays, and centralized traffic control can be provided where delays are being encountered due to insufficient track capacity.

Fortunately, much has been learned in the past few years about the design of equipment, particularly steam locomotives, with the result that it now causes much less damage to track when operated at high speeds. I doubt if there will be much necessity to increase locomotive axle loads in the future. We will have to work closely with equipment builders to the end that high-speed locomotives will not be unduly destructive to the track.

Train Speeds and Signals

When train speeds are increased, signals must be respaced to obtain greater braking distances and longer track cir-

cuits for highway crossing protection. As an alternative to relocating the signals, a fourth indication may be provided. This will increase braking distances from one block to two blocks, making them approximately twice as long, which will increase the spacing at which trains may follow each other on clear indications from two blocks to three blocks, or one and one-half times. We have recently authorized an expenditure of $360,000 for relocating signals to permit operation at higher speeds.

To improve visibility and reduce maintenance costs, we have replaced almost 1,800 miles of semaphore signals with color-light signals in the past four years. By the end of this year all semaphore block signals will have been replaced and we will have 2,919 miles of track protected by color-light signals. To effect economies and reduce maintenance costs, we are using commerial power for our signals wherever it is economically available. Approximately 85 per cent of our installations are so equipped.

Longer turnouts will permit increased speeds. We are now using No. 15 turnouts at main-line switches and No. 20 turnouts with 33-ft. switch points for high speed operation. Spring switches with proper signaling, may be used to reduce delays at sidings. Since January 1, 1942, we have installed 127 main-line spring switches, making approximately 200 now in service, with 51 more authorized.

Operation of high-speed trains may result in demands by the public for automatic gates, in addition to flashing-light signals, at grade crossings. There will also be increased demands for the elimination of grade crossings. Every effort must be made to increase the extent of public participation in the cost of these projects. Much has already been accomplished along this line, but universal recognition must be given to the major responsibility of the public in bearing the cost of this work on the basis of the benefits received.

What About Costs?

In determining the true value of increased speed, we must keep in mind the necessity to decrease costs. Speed must be balanced against cost. Almost anything can be accomplished if cost is ignored. However, those of us in responsible charge should measure the economic justification for everything we do, and the desirability of increasing speeds should be weighed against the resulting benefits.

Let us now consider the problem of reducing costs. How can we get more for our money? This question logically resolves itself into two major parts, materials and labor. Considering materials first, I believe improvements can still be made in the efficiency and service life of perishable materials, such as the numerous timber products we are now using.

[As an example of what can be done to reduce the cost of materials, Mr. Mottier discussed at this point the factors to be considered if the railroads are to obtain the maximum service life from crossties, pointing out that special attention must be given to the selection, production, treatment and performance of ties.—Editor]

We all realize the value of research. Much will be developed in this field. Many roads are carrying on investigations and the A. R. E. A. and A. A. R. are also active. There are many problems yet to be solved. If someone can develop a treatment for crossties that will prevent them from splitting and another treatment that will make the fibers under the tie plates more resistive to wear, and add these two improvements to the preservative treatment now in general use, the tie problem will be greatly simplified. Think also of the great contribution that would be made if someone could develop a paint or simple treatment that would make wood fireproof.

There is another general observation I should like to make, which grows out of our experience. We operated so long on low expeditures that some of our people were beginning to believe we could keep it up indefinitely. We all know this philosophy will not work. Now that our fixed property is in better shape we should plan on a uniform maintenance program designed to keep it in good condition.

Labor a Complex Factor

Turning to labor—the second element involved in the problem of cost reduction—it is the most important, yet the most complex and the most uncertain factor we face. How can the productivity of our men be increased? How can our supervision be improved? These are big problems. On our road efficiency has decreased greatly during the war period. I am sure others have suffered similarly. The big problem facing us is: How can our efficiency now be improved?

Some improvement can be made in the efficiency and productivity of labor by the use of better tools. The management can, and should, take care of this. Much has been accomplished in recent years by the use of more and better work equipment. On our road we have more than $4,600,000 invested in work equipment. Of this amount $2,500,000 is invested in roadway machines, $1,000,000 of which has been invested in the last six years. Much has been written on the value of work equipment and special emphasis has recently been placed on off-track equipment.

[At this point Mr. Mottier described the practices in use on the Illinois Central for repairing and maintaining work equipment; discussed the need for, and methods of, stabilizing the labor force; and dealt briefly with the necessity for the careful planning and co-ordinating of maintenance work.—Editor]

Most industries are giving more attention to their human problems. So are we; but we must do more. We must create in our men an interest in and a fondness for their work, and a desire to give an honest day's work. We should also create in them a consciousness that what is profitable for the company is also profitable for them.

The easy money of the past four years has developed among some of us a philosophy of plenty which approaches a philosophy of extravagance. We will have to get down to earth and again teach and practice the philosophy of economy. Many of us in executive positions will have to change our views on the spending of money.

Must Reduce Waste

We must reduce every form of waste, such as fire losses, derailments, accidents of all kinds, and personal injuries. On our railroad we have been concentrating, during the war period, on these items of conservation, and our experience indicates that much can be accomplished. The volume of business handled in the past three years has not varied greatly so that performances as reported in this three-year period, and given in the following table, are on a comparable basis.

Item	1945	1944	1943
Fire losses sustained	$109,000	$127,000	$173,000
Number of reportable injuries	55	85	101
Casualties per million man-hours	2.85	4.30	5.32
Reportable train accidents due to track defects	16	23	33

In the month of September we established an unusual record on our railroad. For the first time in the history of the company, we went through an entire month without a single reportable injury in the maintenance of way department. In the same month we did not have a single reportable motor car accident. There have been but five months, in the last five years, in which no such accident occurred. The improvement in our safety record has been achieved only through a lot of hard work and conscientious effort directed towards a definite objective. Progress has been made only through the complete co-operation of all concerned.

These yardsticks of accomplishment have been mentioned to illustrate what is meant by human problems on a railroad. The improvement in efficiency in all of our work is one of the greatest problems now facing us, and this involves human relations. If the railroads are to survive, the problems involving human relations must receive far more attention in the future than they have in the past. These problems exist within the ranks of management, within the ranks of the employees, and between the railroads and the public.

The railroads face a real test, but they will meet it successfully. They have faced many tests before and are still the backbone of the American transportation system. We cannot, however, rest on our laurels, for competition will be severe and relentless. The principal reason I have confidence in the future of the railroads is because I have confidence in their managements and in the men and women in the ranks whose future is at stake in the perpetuation of the railroads.

Making Friends with the Annual Report

By JOACHIM SILBERMANN

THE annual report is a necessary document, but not a necessary evil. It can be—as many railroads already have proved—a valuable medium with which to foster good stockholder, employee and public relations.

The annual report contains information of interest to the company's stockholders and employees, its suppliers, customers and prospective stockholders and to the general public. For example, only by telling the public of the company's problems and affairs can the public's understanding and sympathy be solicited when needed.

Many companies advertise their annual report. The reports also are analyzed in the financial pages of newspapers and financial magazines.

Recently a survey of 2,500 annual reports of corporations was undertaken by "Financial World" magazine and judged by an independent board of experts.* The judgment was that only about one-third of the reports surveyed could be considered modern and effective public relations media. About 37 per cent were judged to have improved substantially in recent years and about 30 per cent were considered ineffective.

In the survey, the annual report was considered modern when its financial, statistical and editorial content, format, typography and illustrations were interestingly and readably prepared; also where care was taken to disclose fully the activities of the company and to present them in an interesting form, combining good balance between illustrative and textual material. The ineffective report was considered one presenting merely the financial statements, statistical notes and tables and a letter of transmittal couched in stilted and technical phraseology. Generally it had not changed in form during the past 10 years and was not written in everyday language, and had none of its high points dramatized or illustrated.

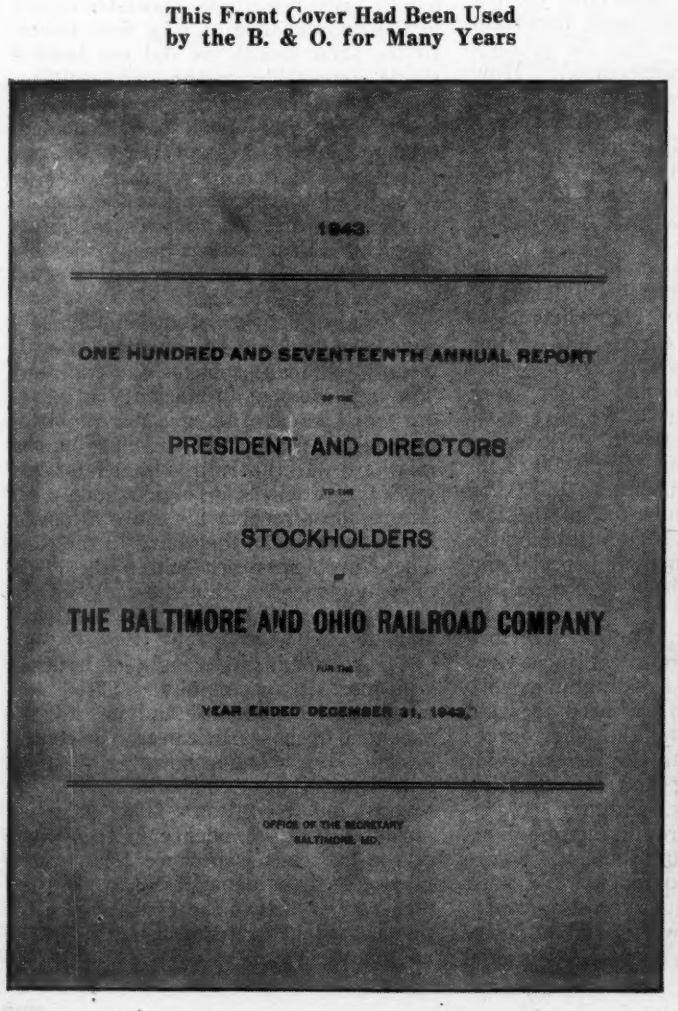
The author is a partner of PICK-S, a company specializing in the preparation of annual reports. He formerly was foreign manager of Moody's Investors Service, Ltd., of London, and a representative of the London "Economist" and "The Financial News."

In the course of my experience and analysis of modern annual reports, I have noted certain basic principles involved in their preparation, the more important of which are enumerated below:

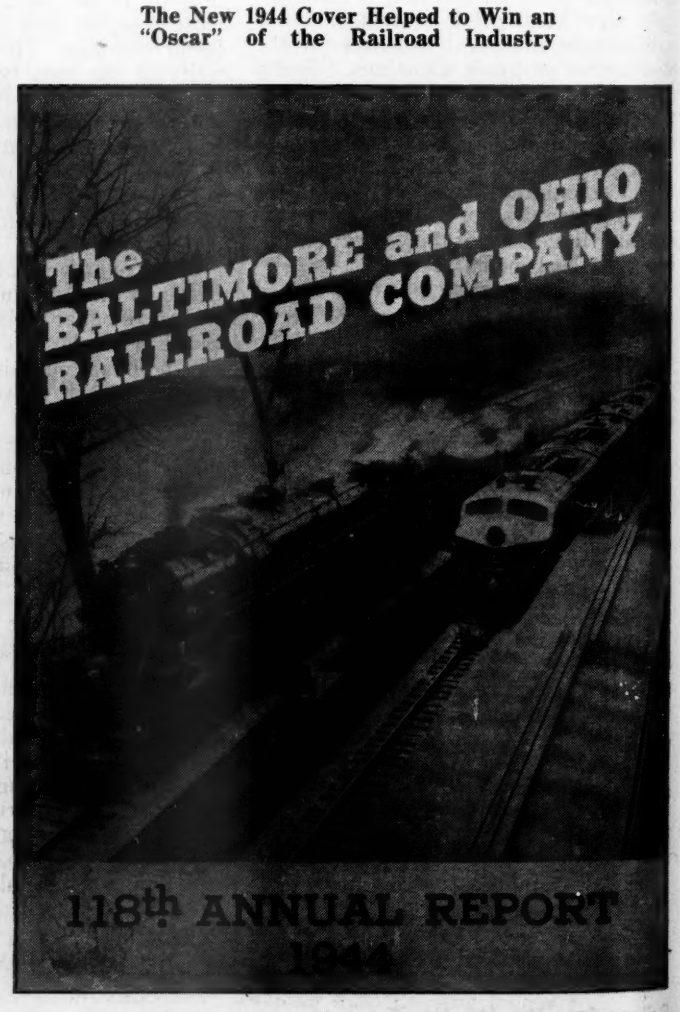
The effective report attracts immediate attention by its cover and sustains this interest throughout. A summary of the past business year is presented in the opening pages, with the highlights of the company's activities, in condensed form, summarized in the letter of transmittal. There is a clear continuity with the reports of previous years. First there is a historical review of the finan-

* C. Norman Stabler New York Herald-Tribune; Sylvia Porter, New York Post; Norman Bel Geddes, artist and designer; Glen Griswold, Public Relations News; Dr. Lewis Haney, New York University.

This Front Cover Had Been Used by the B. & O. for Many Years



The New 1944 Cover Helped to Win an "Oscar" of the Railroad Industry



cial progress and the activities of the company. Following this, a detailed but not lengthy discussion is presented of the financial and physical operations of the company, which is made more lucid by means of graphical illustrations. The layout of the report and the graphic, photographic and map illustrations used are planned with great care.

Stockholders' Preferences

Numerically, the majority of stockholders of American corporations are small investors, who have no training or experience as financial analysts. To interest such people a dramatic form of reporting is necessary. If the average stockholder and the public are to appraise intelligently the methods and systems whereby the corporation is being managed and the financial progress which is being made, the report must be clear, concise and simple.

A recent stockholder opinion survey* has revealed that stockholder reader-interest is concentrated primarily in the following fields: (1) Future plans and prospects; (2) earnings; (3) dividends; (4) research; and (5) consumer relations. To this list may be added a few points of interest and significance in selling a company to the public: (1) Historic facts about the company; (2) its investments; (3) its pension plan; (4) conservation; and (5) taxes.

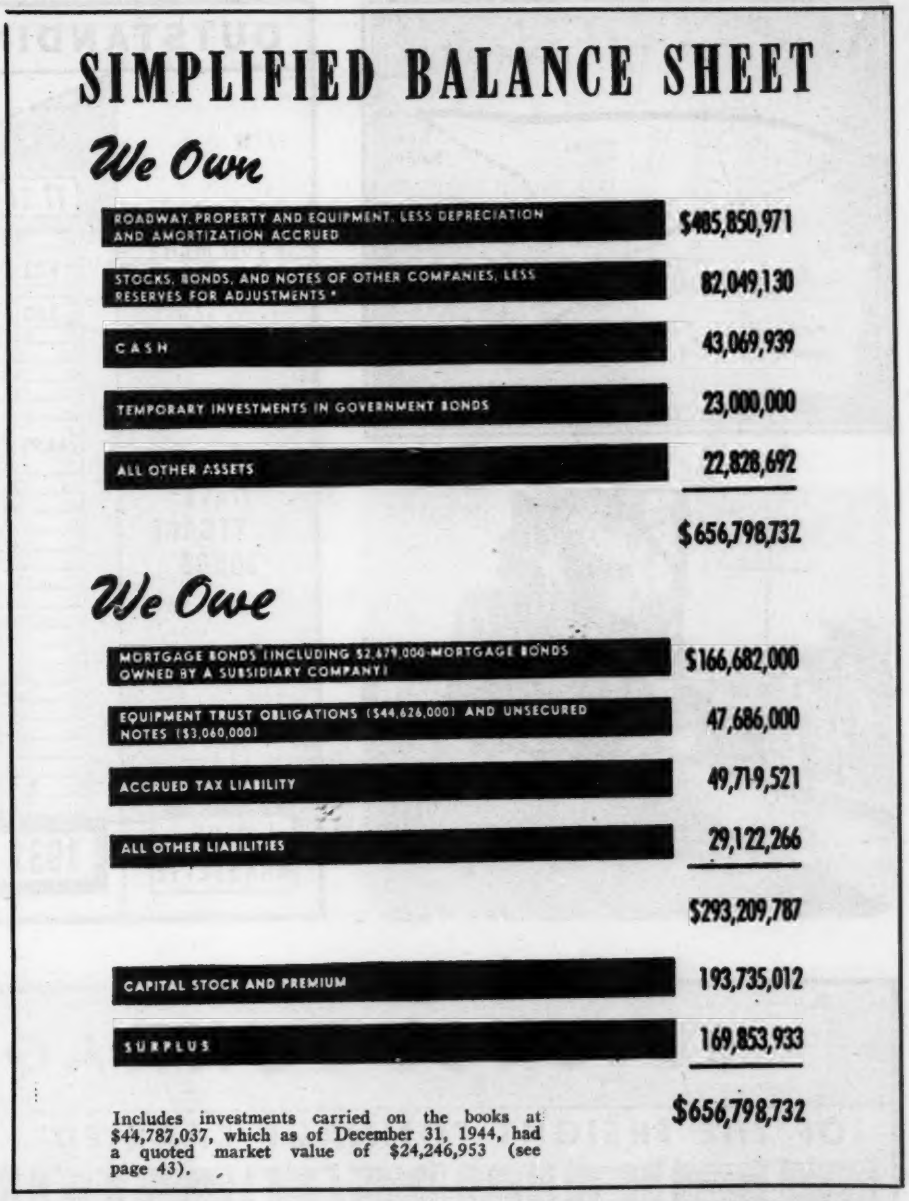
Stockholders have also indicated a preference for pictorial and graphic presentations, rather than textual and tabular presentations. Illustrations and graphic presentations were considered to humanize otherwise dry financial statistics of a company.

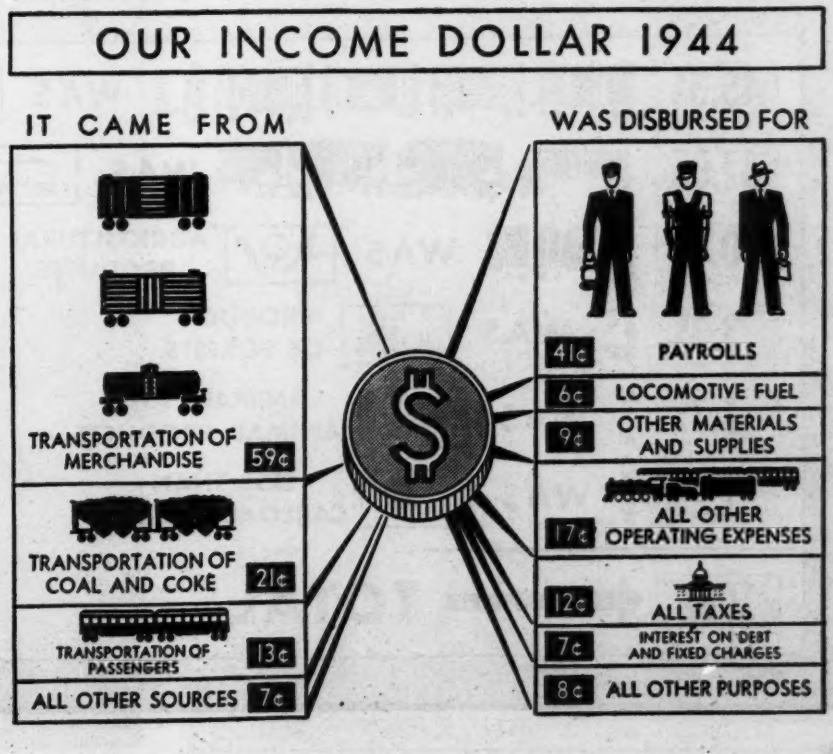
Interesting Examples

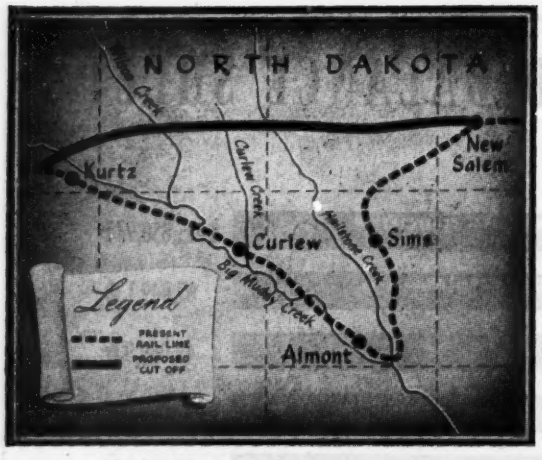
To illustrate this article, I have selected at random certain samples from many such examples available in modern annual reports which meet these requirements. It will be noted how these examples are readable and interesting.

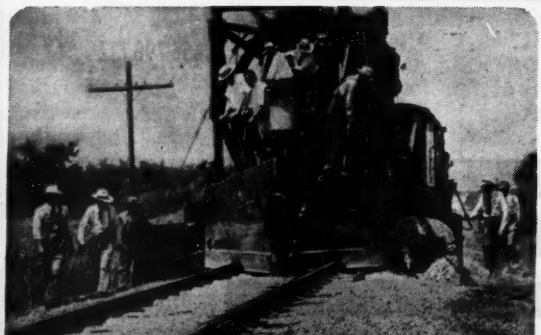
First is a comparison of the covers used by the Baltimore & Ohio in its reports for 1943 and 1944. Next is a map by means of which the Northern Pacific showed a line relocation which will reduce its operating costs. An example of the effective portrayal of debt reduction is the Pere Marquette's graphic presentation. The same railroad also effectively analyzed its freight revenue graphically. A photographic treatment of maintenance and improvement was effectively used by the Missouri-Kansas-Texas. Examples of simplified financial statements portrayed graphically are the balance sheet of the Chesapeake & Ohio and the profit and loss statement of the Baltimore & Ohio. In 1944, the Boston & Maine published a special edition of its employee magazine on the road's progress during the year. Two effective graphic illustrations: "What Is the Boston & Maine?" and "We Carried in 1944" are also shown, along with the wage situation of the Baltimore & Ohio.

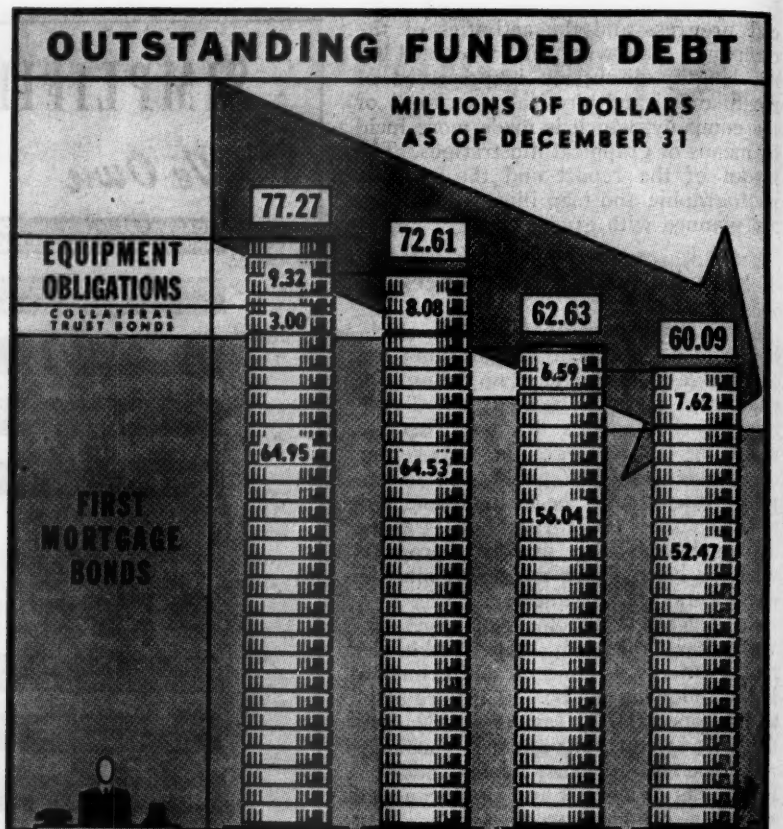
* General Foods Corporation.

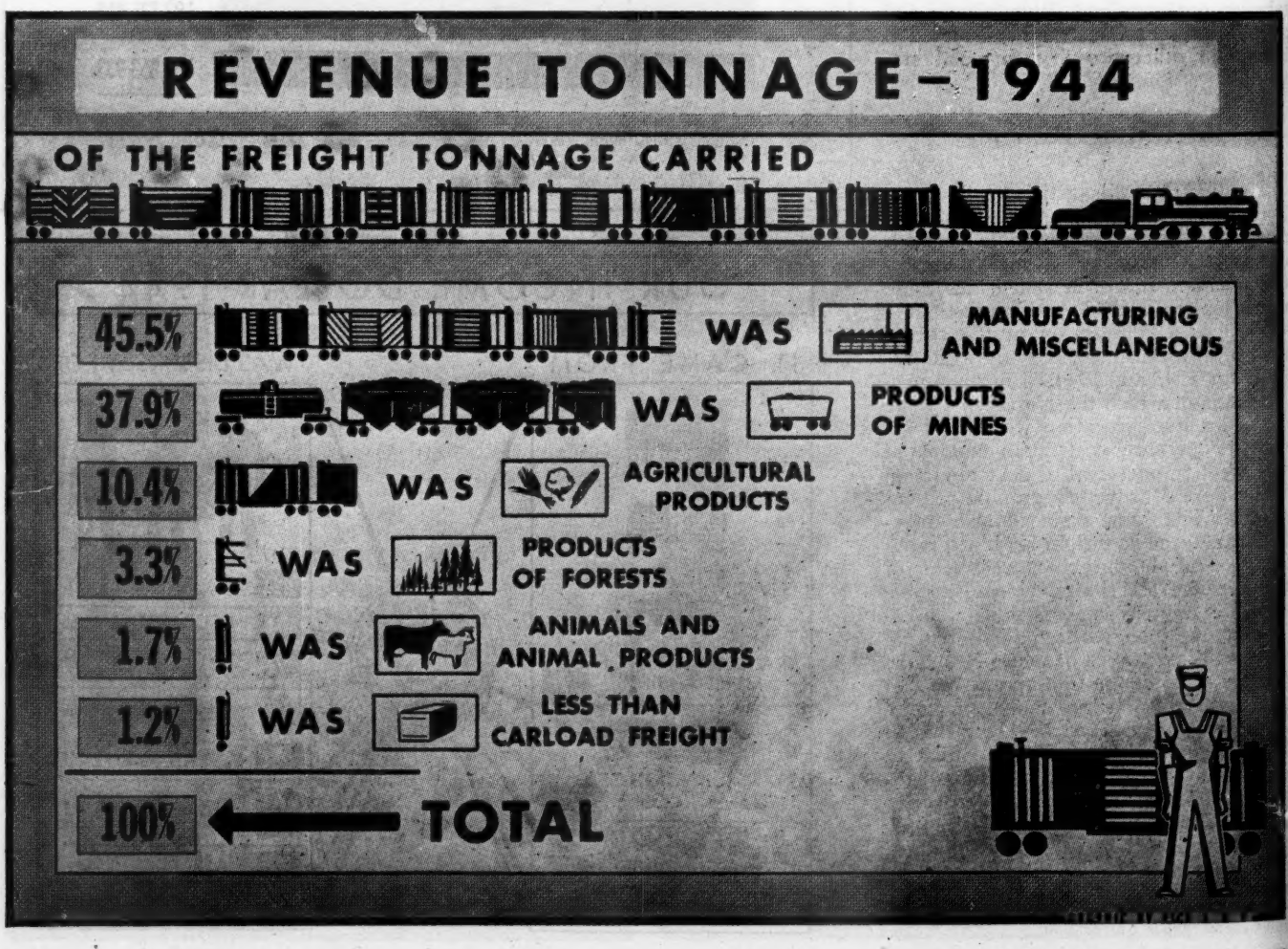



OUR INCOME DOLLAR 1944
IT CAME FROM
WAS DISBURSED FOR
TRANSPORTATION OF MERCHANDISE 59¢
TRANSPORTATION OF COAL AND COKE 21¢
TRANSPORTATION OF PASSENGERS 13¢
ALL OTHER SOURCES 7¢
41¢ PAYROLLS
6¢ LOCOMOTIVE FUEL
9¢ OTHER MATERIALS AND SUPPLIES
17¢ ALL OTHER OPERATING EXPENSES
12¢ ALL TAXES
7¢ INTEREST ON DEBT AND FIXED CHARGES
8¢ ALL OTHER PURPOSES


NORTH DAKOTA
Kurtz
Curlew
Sims
New Salem
Almont
Legend
PRESENT RAIL LINE
PROPOSED CUT OFF




OUTSTANDING FUNDED DEBT
MILLIONS OF DOLLARS AS OF DECEMBER 31
EQUIPMENT OBLIGATIONS
COLLATERAL TRUST BONDS
FIRST MORTGAGE BONDS
77.27
72.61
62.63
60.09
9.32
3.00
64.95
8.08
64.53
6.59
56.04
7.62
52.47
PERE MARQUETTE
1931
1941
1943
1944
GRAPHIC BY PICK-S, N. Y.


REVENUE TONNAGE—1944
OF THE FREIGHT TONNAGE CARRIED
45.5% WAS MANUFACTURING AND MISCELLANEOUS
37.9% WAS PRODUCTS OF MINES
10.4% WAS AGRICULTURAL PRODUCTS
3.3% WAS PRODUCTS OF FORESTS
1.7% WAS ANIMALS AND ANIMAL PRODUCTS
1.2% WAS LESS THAN CARLOAD FREIGHT
100% TOTAL

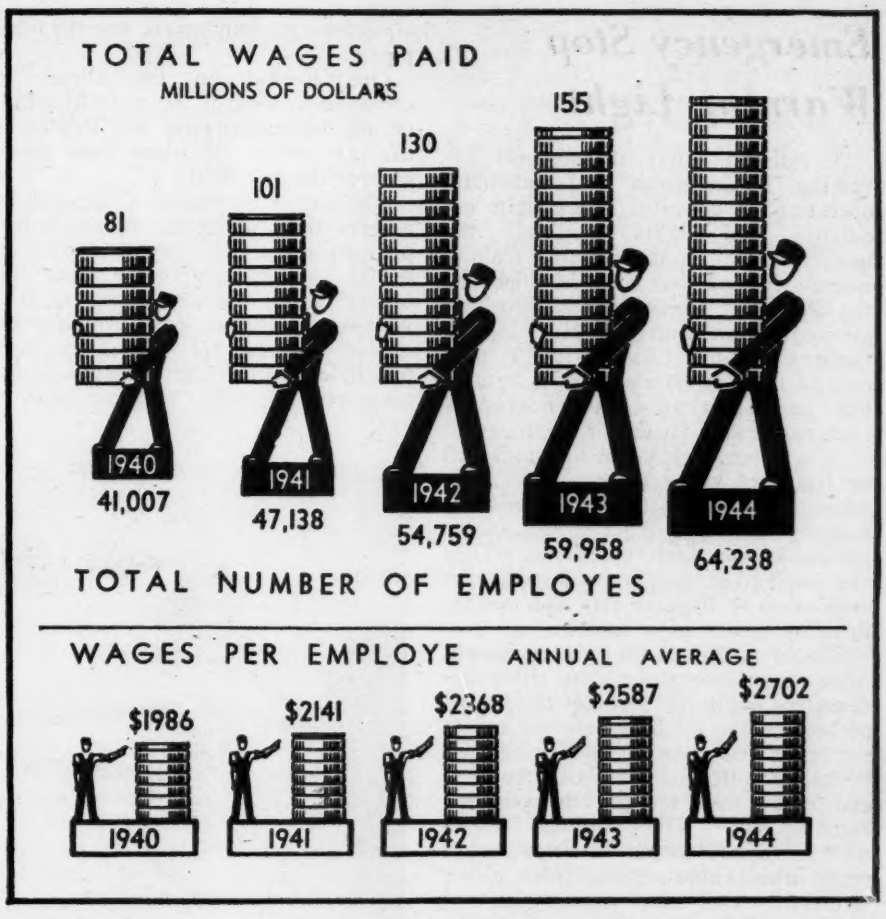
Applying the standards of the board of experts mentioned above, the author classified all Class I railroad annual reports for 1944 and found that only one out of every five (or 20 per cent) published its report in a form which could be characterized as fully modern and effective.

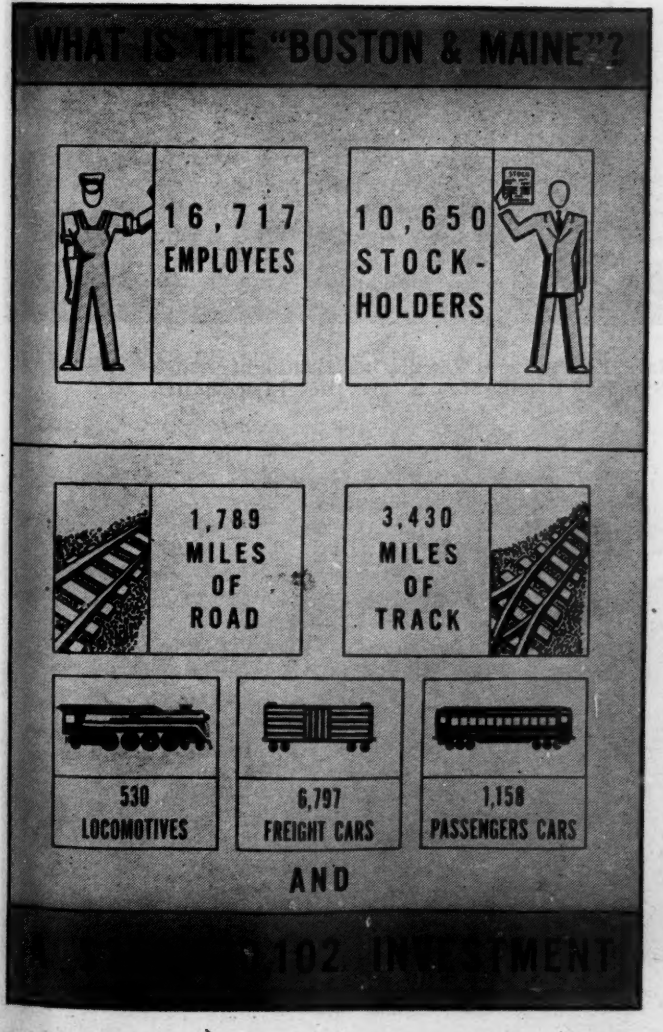
Cost of Improvement

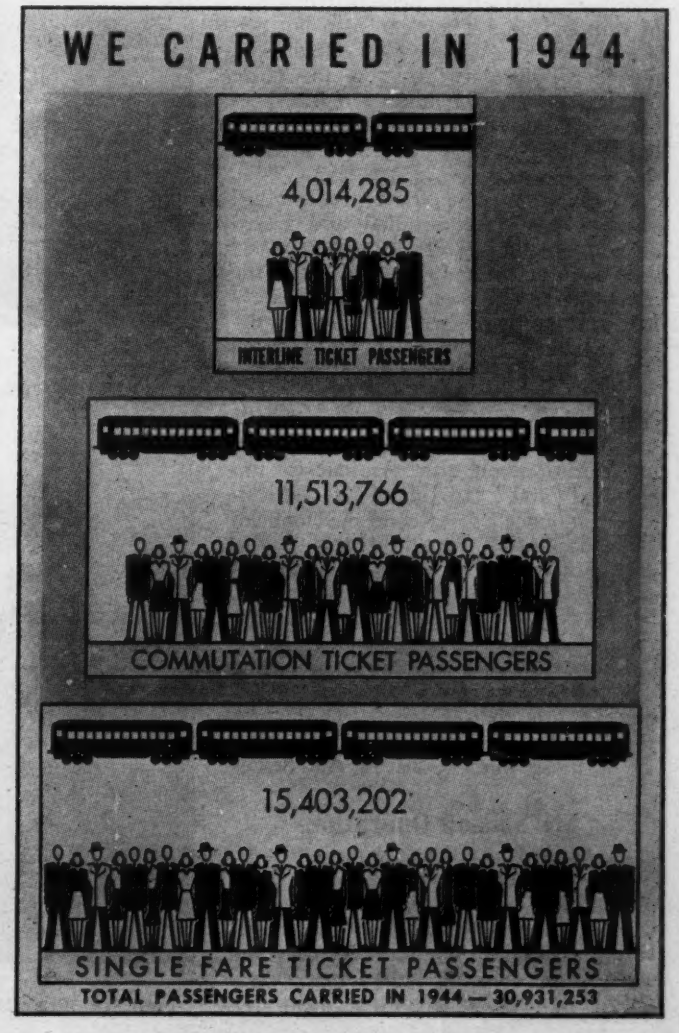
To achieve an adequate degree of attention and interest value it is not necessary to spend great sums of money on the elaborate use of many colors. While such expensive use of color is effective in securing attention, it risks the criticism from stockholders that excessive expenditure has been incurred. As usual, the "via media" or happy medium is the wise course.

On the other hand, the moderate use of a second color, action photographs and the dramatic graphic portrayal of corporate statistics plus simple, direct language, bound together by a good layout and clear typography, can achieve the desired effect without danger of inviting a suspicion of extravagance.

Since the annual report has to be issued anyhow, a reasonable degree of effort and expense to assure that the job is done in a manner to do the best job possible in winning friends for the property and its management appears to be justifiable.







Emergency Stop Warning Light

A railroad safety development involving instantaneous and automatic operation of powerful figure-eight oscillating red lights at both the head and rear ends of trains making emergency stops has been developed by the Chicago & North Western, working in conjunction with the Mars Signal Light Company, Chicago. The purpose of the new development is to protect trains making emergency stops from rear-end collisions or, in the event of a derailment, from being sidewiped by trains on other tracks. The automatic operation of the lights involves a new principal of utilizing the sudden release of air brake pressure. They are so hooked up, however, that the engineman or flagman may also operate them by means of a switch.

Should a train with this equipment come to an emergency stop, either because the engineman has set the brakes or because the air hose between any of the cars has parted, oscillating red lights at both the head and the rear ends of the train will go into operation automatically. The powerful beams will serve as "stop" warnings to all other trains approaching from either direction. On clear nights, the red lights will be visible for several miles and have considerable penetrative power in rain or fog. They can also be seen over a long range in daylight. Obviously, the rear light does not take the place of the flagman who is required to perform his usual duties. The oscillating lights simply provide an additional safety feature.

New equipment of the type described already has been installed and tested on the streamliner Twin Cities "400" with high satisfactory results. It is the fourth successful step in railroad safety research accomplished by the two organizations mentioned in the last ten years. The first came in 1936 when the Mars oscillating headlight, now a regular feature on many of the nation's fast trains, was developed and placed in operation on the original steam-powered "400." In July, 1944, the railroad announced the second development —an oscillating headlight that would flash either a red or white light, whichever the locomotive engineman desired. In January of this year came the development of a portable red oscillating light for the rear of trains, preceding the latest innovation of automatic operation by less than a year. The North Western was the first railroad to adopt all of these innovations for its trains.

Method of Operation

The light on the "400" Diesel locomotive is a combination oscillating red-white light. The light on the observation car is an oscillating Mars red signal light only. The automatic feature of these lights is controlled through air-connected switches cut into the brake pipe:

One located on the Diesel locomotive to control the red-white light on the locomotive and one located on the rear end of the observation car to control the red light.

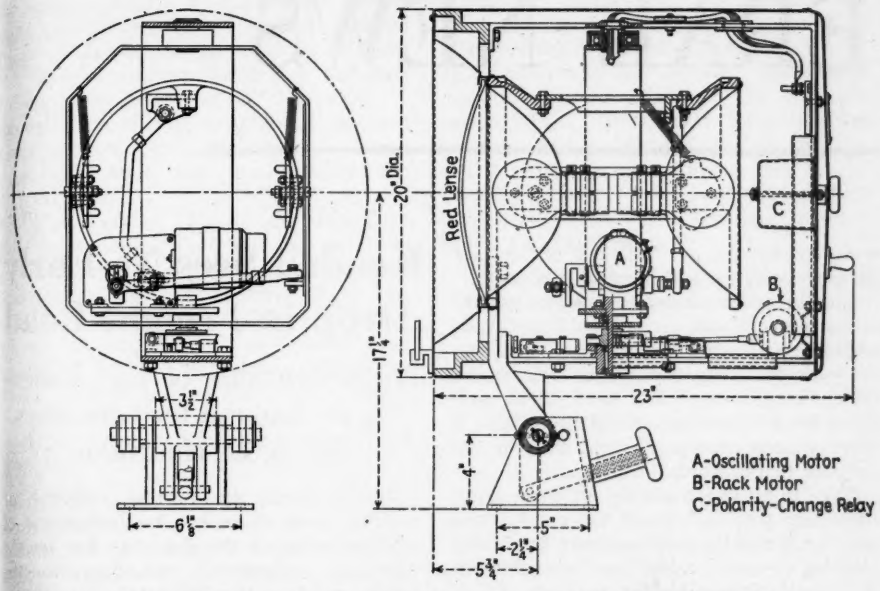
The automatic feature of these lights assures that, whenever the brake-pipe pressure drops below approximately 30 lb. for any reason with the Mars light operating, the light will revolve from white-oscillating to red-oscillating and immediately shut off the regular white headlight. When the pressure of the brake-pipe is pumped up above approximately 43 lb., the red light will turn out and automatically revolve back to white-oscillating, the regular headlight again lighting.

When operating by day with the Mars oscillating light not in use and all switches except the automatic switch in "off" position, if for any reason the brake-pipe pressure should drop below approximately 30 lb., the Mars light will turn to red-oscillating and remain in this position until the brake-pipe is again pumped up above approximately 43 lb.

The Mars oscillating light on the rear of the train shows red position

A Mars Figure-Eight Oscillating Headlight Above the Standard Headlight on a "400" Diesel Locomotive

North Western "400" with a Mars Figure-Eight Oscillating Red Light on the Rear



Construction of the Mars Combination Red-White Headlight

only and will operate the same as the one on the locomotive. Any time the brake-pipe pressure is reduced below approximately 30 lb., this light will start to operate and automatically shut off when the brake-pipe is again pumped up above approximately 43 lb. The automatic feature of this light in no way interferes with the regular manual operation.

The air switches are of the diaphragm type. Whenever the brake-pipe pressure is above the predetermined upper setting, the contacts on this switch are held open and the Mars oscillating white light is in operation. When brake-pipe air pressure drops to the low limit, the contacts of the air switch close, energizing the polarity-change relay, and the rotating motor will turn the barrel of the Mars light from white to red, at the same time energizing the power cutoff relay to the standard stationary headlight, turning this light out.

At all times when the red-oscillating light is in operation there is no other light displayed to an approaching train. When brake-pipe pressure is again built up to the upper setting, the operation is reversed. The red-oscillating light on the rear of the train shows whenever the red-oscillating locomotive light is operating.

The combination red-white light on the locomotive receives its power from a 64-volt battery through a 12-volt motor-generator set. The lamps used on the red and white positions are 480-watt, 12-volt, bi-post type. The red light on the rear end is a 250-watt, 32-volt standard headlight lamp, taking its power from the car battery.

COMMUNICATIONS . . .

Britain's Tribute to Norman A. Ryan

LONDON

TO THE EDITOR:

I think you may like to have a copy of the tribute, which appeared in the "Times" (London), to Norman A. Ryan of the Milwaukee, a friend of mine over fifteen years and whom I was privileged to introduce to the British railways on his arrival in London in 1942.

We saw much of him at our home and also at this office, and he did much to cement the friendship of our two countries.

The tribute was designed by John Elliot, deputy general manager of our Southern Railway.

C. E. R. SHERRINGTON,
Secretary, Railway Research Service

The excerpt from the Times (London) enclosed by Mr. Sherrington reads as follows:

"Colonel Norman A. Ryan, a deputy chief, United States Army Transportation Corps, who died this week in New York, came to Britain with the American advance guard early in 1942. A correspondent writes:

"With a few colleagues Ryan laid the foundation of the great military railway and port network built up by the Americans on this side of the Atlantic to supply the North African and European campaigns. So well did he know his business, and so excellent were the relations which he established with his opposite numbers on the British railways and at the Ministry of War Transport, that the organization grew from small beginnings into a vast supply machine with the minimum of friction and difficulty. Ryan's human and friendly approach opened all doors, as did his positive liking for Britain and the British, though it would be hard to imagine a more 'American' American.

"Ryan was general manager, Western lines, of the Chicago, Milwaukee, St. Paul & Pacific Railroad at the time of Pearl Harbor, and early in 1942 he was specially selected to go to London under General Lee, United States Army Chief of Supply Services, and Major-General (then Colonel) Frank Ross, Chief of the United States Army Transportation, E. T. O. U. S. A. Throughout 1942, 1943, and the first half of 1944 he labored day and night, weekdays and Sundays, at his task, traveling all over the country in the special Pullman which the British railways had put at his disposal. The great United States military rolling stock assembly depot at Hainault, near London, was his creation.

"In the autumn of 1944 he went to France and helped to organize French railway and water transport. He returned to America in the spring of this year, and was, until recently, Military Port Commander, New York. For his services in Europe he was awarded the United States Legion of Merit. His exceptional knowledge of railway technique, his bluff personality, and his capacity for friendship will long remain a treasured memory for all of us here who knew him and worked with him in the great adventure."

Agreed Rates in Canada

TO THE EDITOR:

On page 750 of the November 10 *Railway Age* there is an inaccuracy in my discussion of subsidies to the Canadian railways. A little below the middle of the third column, the sentence beginning: "They may not have the effect . . ." should be deleted, as should also the next sentence. The following should be substituted instead:

"They (agreed charge arrangements) may not have the effect of affecting the special freight rates required to be made by the carriers by the Maritime Freight Rates Act, 1927, or under the Crow's Nest Pass Rate Agreement. These are statutory rates. In the case of the former, the Canadian government subsidizes the railways in the amount of the difference between the standard and the subnormal or statutory rates. Under the Crow's Nest Pass Rate Agreement, the Canadian Pacific Railway received a subsidy per mile of line for the construction of the road. This subsidy was a lump sum of over £3,000,000 in consideration of which the C. P. R. made certain reductions in rates, principally in grain. In 1925, the Canadian Parliament directed that the same rates be made applicable via the Canadian National Railways and other railways operating in Western Canada but without subsidy."

While I do not think the change is a material one, in the interests of strict accuracy it should be corrected. As the statement now stands it conveys the impression that the Canadian government subsidizes the railways for the difference between the Crow's Nest Pass Rates and the standard rates, as it does in the case of rates made under the Maritime Freight Rates Act, 1927. This is not so because the subsidy in connection with the Crow's Nest Pass rates was paid only to one railway and as a lump sum and not the difference between the rates.

G. LLOYD WILSON,
Professor of Transportation and Public Utilities, U. of Pa.

GENERAL NEWS

Pullman Sale to RRs Endorsed by Court

Sees no danger of monopoly in decision; three conditions imposed on carriers

Proclaiming the railroads to be the "natural and obvious people to do sleeping car business," the special three-judge Federal expediting court, which began hearings November 5 to determine which of four bidding groups should be permitted to purchase the $75 million Pullman sleeping car services, on December 18 filed its opinion approving sale to the upwards of 50 railroads seeking sanction of the court to consummate a tentative contract with Pullman, Inc. Arguments of all bidders, including the Young-Otis group, Glore-Forgan, Standard Steel Spring, and the railroads, and of the Department of Justice, were concluded on December 12. (*Railway Age*, December 15, page 993). It has not been disclosed whether any of the unsuccessful bidders will carry the case to the Supreme Court, as was hinted earlier.

Three Conditions—The opinion of Senior Circuit Court Judge John Biggs, Jr., and Circuit Judges Albert B. Maris and Herbert F. Goodrich, which was presented in a decree written by Judge Goodrich, imposed three conditions in the order confirming the sale. They are:

(1) There shall be no interlocking directorates between Pullman-Standard, Pullman, Inc., and the railroads.

(2) If the Pullman Company or its successor buys new sleeping cars, these must be purchased under competitive bidding.

(3) The railroads, in purchasing sleeping cars following consummation of the transaction under consideration, shall also purchase them from manufacturers following competitive bidding.

Enlarging on the latter stipulation, Judge Goodrich wrote: "We do not want the practices established under the monopolistic regime to carry over into the operation in the hands of the new owners. The requirement for competitive bidding will, we think, shut off the last possibility of any untoward influence of Pullman Standard following sleeping cars into the hands of the people who now take over."

In selecting the railroad offer, the court did not wish to "imply disapproval of other bidders," being "much impressed with all of them." Nor did it settle on "Pullman's selection" (the railroads) "because it has chosen the bid that brings it what it regards as the most favorable terms." The court made it plain it had approved the railroad offer as the "most natural purchaser, because it has the legal responsibility for providing sleeping cars and comes in under terms which we are satisfied are in accordance with the judgment of this court."

The December 18 decree saw "no danger of the perpetuation of monopoly in a railroad-owned sleeping car business," and thus set aside the contention of the Department of Justice (reported last week) that purchase by the carriers would "substitute a more vicious monopoly" than the one attributed to Pullman.

"The thing which got the Pullman Company into trouble," wrote the court, "was not that it was the only company furnishing sleeping car service, but that Pullman made it virtually impossible for anybody else to get into the business. . . . We think we have got rid of all that by the careful limitations imposed upon Pullman Company by the original judgment in this case, and which will be imposed upon its successors by the order which we shall enter. A railroad may join with others and use exclusively the services of Pullman. It may do part of that service itself, or through some other concern of its own choosing, and ask Pullman to do the rest. It may own all of its own sleeping cars, or part of them, or none of them. All of this is provided for in our judgment," the court explained, concluding that "therefore there is no unlawful monopoly."

The expediting court told Pullman, Inc. that "with notice to counsel for the United States and the railroad buying group," it may submit a form of order for approval of its sale.

Drawbridge Accident on H. & M.

A westbound New York-Newark multiple-unit electric train on the rapid transit Hudson & Manhattan collided with an open span of a lift bridge near Newark on the Pennsylvania (over which H. & M. trains operate into Newark) at 6:27 p.m. on December 17, resulting in the death of the motorman and injuries to 67 passengers.

The lift span had been opened and was moving into closed position when the H. & M. train ran into it. An investigation is now under way to learn why it was that the train ignored a red stop signal and also demolished a smash-board at stop, immediately before it ran into the closing span.

Holiday Music Heard Daily in Grand Central

As in former years, the New York Central and New York, New Haven & Hartford are sponsoring a series of daily programs of Christmas carols and traditional holiday music on the orgatron in Grand Central terminal, New York. A feature of the music this season is a set of memorial chimes, dedicated to the fallen war heroes of both railroads. Five soloists and 14 choral groups from high schools, industries, societies, Girl Scouts, etc., sing during the programs, which will end New Year's day.

Kendall Sees No Early Drop in Freight Load

No indications of any lessening in demand for cars, says C. S. D. chairman

"Aside from the normal seasonal or holiday drop, there are no indications of any lessening in the demands for freight carrying equipment," according to the latest report on the "National Transportation Situation," issued December 15 by Chairman Warren C. Kendall of the Car Service Division, Association of American Railroads. With respect to the passenger situation, Mr. Kendall noted how the railroads and the Pullman Company are doing their utmost to meet demands of the armed services during the current month when all records for the movement of military personnel are being broken.

The continued high level of freight transportation requirements is reflected especially in the demand for box, hopper, refrigerator, and stock cars, the C. S. D. chairman said. "Despite some temporary disruptions," he added, "the reconversion of American industry from war time production to peace time economy appears to be well on its way. Carloadings for the week ended December 1 were only 4,066 cars less than for the corresponding war period week of 1944. The heavy decrease in miscellaneous loadings which had been so pronounced since V-J Day and which largely represented traffic for use by the armed forces is being steadily reduced week by week, thereby indicating the increase in production and shipment of goods for civilian consumption."

Box Cars in Demand—The continued heavy demands for box cars applies particularly with respect to higher grade cars and "there are some deficiencies in the supply of this class of equipment, especially on western roads," Mr. Kendall said. He went on to point out that box car loadings are averaging "above 375,000 cars per week which exceeds the first two weeks of August, immediately prior to V-J Day." Meanwhile the ownership of serviceable box cars for all roads as of November 15 was 712,679. As Mr. Kendall put it, a comparison of this latter figure with current weekly box car loadings "will serve to illustrate the intensive use to which this class of equipment is being put at the present time." Thus he stressed the "urgent need" for continuing efforts for the most expeditious handling of box cars on the part of all concerned.

With the loading of grain and grain products comprising the greatest single commodity demand for box cars, the Car Service Division has acted again to assist

the western roads. It has stepped up its quota plan to require eastern and southern roads to deliver to western roads 1,000 box cars of western ownership per day. During the period from November 1 through December 6, eastern and southern roads delivered to their western connections 41,070 empty box cars or an average of 1,141 daily.

"This assistance," Mr. Kendall said, "has provided relief to western roads in meeting their exceedingly heavy requirements. It continues necessary to move empty box cars to western districts. This should not convey the impression that there is any surplus of box cars on eastern and southern roads. The help they are giving reflects the closest cooperation in spreading the supply in the most equitable manner in all districts."

Auto Unrest—Because of the unsettled labor conditions in the automobile industry, the railroads have experienced no difficulty in meeting the demand for auto cars. With respect to stock cars, Mr. Kendall reported a "heavy demand" for both single and double-deck cars, but added that "up to the present time, there has been no serious difficulty experienced in meeting current requirements."

The C. S. D. chairman's discussion of the refrigerator car situation reports on the tight conditions which brought about issuance of the Interstate Commerce Commission service order establishing super-demurrage charges on that class of equipment, as noted in the *Railway Age* of December 15, page 1000. Also noted there was the Office of Defense Transportation's action increasing minimum loading requirements applicable to "reefers." These emergency requirements, Mr. Kendall said, "are calculated to accomplish an improvement in the turn-around time of refrigerator cars." He also said that a special subcommittee representing refrigerator car lines and the railroads has been set up to meet weekly with the manager of C. S. D.'s Refrigerator Car Section. The weekly meetings started December 12, and the subcommittee "will review actual loading requirements in different districts, and assist the manager in the preparation of car distribution orders considered necessary to accomplish equitable allocations between producing districts."

"Reefer Research"—Mr. Kendall's further discussion of refrigerator cars told of the "reefer" research program which has been undertaken at the suggestion of the Refrigerator Car Committee of the United Fresh Fruit and Vegetable Association. The investigation, to be carried on during the next two years, was authorized by the A. A. R. board of directors at its October 26 meeting in Washington, D. C. (see *Railway Age* of November 3, page 722). As Mr. Kendall outlined it, the study will cover "new equipment, as well as improved methods of loading, bracing, icing, heating and air circulation, and the prevention of damage to freight in this type of car due to vibration and rough handling."

Coming to his survey of open-top car conditions, the C. S. D. chairman stated that the coal car supply "has been tight with some deficiencies, reflecting the need for the continued close cooperation of shippers, receivers and carriers in the prompt release and handling of both loaded and empty cars." Returning war materials are creating a "heavy demand for gondolas," but "generally, the supply is fully satisfactory and no deficiencies are anticipated." The demands for long and wide flat cars "are about equal to the supply, but shorter flats are surplus on several lines." Requirements for covered hoppers continue "exceptionally heavy," but commodities usually moving in that type of equipment "are being fully protected."

Export Traffic—The l. c. l. situation has been affected adversely by labor disturbances in the trucking field, and these conditions "have required the issuance of numerous embargoes and service orders affecting the acceptance of l. c. l. freight." Export traffic continues at a high level, but all ports are free of restrictions except New York and Philadelphia, Pa., where the permit system still applies on shipments in box cars. Mr. Kendall reported "little change" in the Mexican interchange situation; applications for permits continue to be received in excess of the ability of the National of Mexico to accept, at the border ports of entry.

The report's figures on the supply of equipment showed that there was an increase of 1,548 in the number of serviceable freight cars—November 1 compared with October 1. The bad-order percentage on October 1 was 4.1 compared with 2.9 per cent on November 1, 1944. November car detention reports indicated that the percentage of cars detained by shippers beyond the 48 hours free time was 16.53 compared to 13.5 in November, 1944.

* * *

A Question of Where to Hitch the Horse

Pelley and Fort Are White House Callers

J. J. Pelley, president of the Association of American Railroads, and J. Carter Fort, the association's vice-president and general counsel, were on President Truman's December 18 appointment list. It was stated at the A. A. R. that any information with respect to the visit would have to come from the White House, and none had come when this issue went to press.

Meanwhile the presence of Mr. Fort gave rise to speculation that legislative matters may have been discussed. With land-grant-repeal legislation finally enacted, the Bulwinkle bill to stay the operation of anti-trust laws with respect to carrier agreements and the Crosser-Wheeler bills embodying the Railway Labor Executives' Association program for liberalizing the Railroad Retirement and Railroad Unemployment Insurance acts comprise the most important pending legislation of interest to the railroads.

Movement of L. C. L. Embargoed at Many Points in Northwest

The freight congestion in the Northwest, caused by the strike of over-the-road truckers, which was reported in the *Railway Age* of December 15, continues unabated. On December 18, Minneapolis, Minn., St. Paul and Minnesota Transfer were again placed under an embargo applying on all shipments of l.c.l. freight, although exception was made as to shipments routed via the Chicago, Rock Island & Pacific, Chicago Great Western and Minneapolis & St. Louis. On the same day an embargo was placed against all l.c.l. freight routed via all lines, destined Des Moines, Ia. The embargo of December 5, prohibiting the movement of l.c.l. shipments to Omaha, Neb., and South Omaha and to Council Bluffs, Ia., on December 18, was revised to apply only to traffic routed via the Chicago, Burlington & Quincy and

the Chicago & North Western. There was also some improvement in the situation at Burlington, Ia., the l.c.l. embargo effective at that point on December 5, having been cancelled on December 11.

In the Rocky Mountain area, the Denver & Rio Grande Western embargo of December 8, applying against l.c.l. traffic moving to and from Denver was lifted on December 12. However, interruptions to pick-up and delivery service at Salt Lake City, Utah, due to labor trouble, resulted in the D. & R. G. W. placing an embargo on all l.c.l. freight to or from that city, except outbound freight handled in trap cars, effective December 11. This embargo was cancelled the following day, but was reinstated on December 18. In most instances these railroad embargoes on inbound shipments have been supplemented by Interstate Commerce Commission service orders establishing comparable restrictions on outbound l.c.l. movements.

November Ton-Miles

The volume of freight traffic, handled by Class I railroads in November amounted to 49,000,000,000 ton-miles, according to a preliminary estimate by the Association of American Railroads and made public today. The decrease under November, 1944, was 18 per cent.

Revenue ton-miles of service performed by Class I roads in the first 11 months of 1945 was 7 per cent under 1944, and 5 per cent less than the corresponding period two years ago.

	1945	1944	Per cent decrease
First 9 months	534,826,036,000	556,424,186,000	3.9
October	[a]50,000,000,000	63,875,263,000	21.7
November	[b]49,000,000,000	59,554,815,000	17.7
Total 11 months	633,826,036,000	679,854,264,000	6.8

[a] Revised estimate.
[b] Preliminary estimate.

The accompanying table summarizes revenue ton-miles for the first 11 months of 1945 and 1944.

Symes Talks of Super-Service to Ohio Valley Shippers

Appearing before a record-breaking crowd with an enthusiastic and optimistic message outlining what the railroads are planning in the way of improved service to the traveling public, James M. Symes, vice-president of the Pennsylvania, was the guest of honor and principal speaker at a meeting of the Ohio Valley Transportation Advisory Board, held in Cincinnati, Ohio, on December 13 and 14.

Mr. Symes made his address at a luncheon held by the board in conjunction with several Cincinnati civic organizations and began his talk by describing the importance of America's railroads as a $28 billion transportation system, giving direct employment to 1,500,000 persons and spending billions of dollars for equipment and supplies.

Result of Research—"With the tremendous amount of research going on within the industry and by outside manufacturers, you are going to see improvements and innovations in railroad transportation not dreamed of just a few years ago," Mr. Symes declared. "You have been reading about the individual railroads buying locomotives and cars. It is all a part of the extensive railroad post-war program.

"This program is planned to provide a modern passenger service, designed to accommodate mass travel at high speed, safely and luxuriously, at low cost. By high speed, I do not mean air speeds—I mean consistent speeds of something like 80 to 90 miles per hour. The railroads have a potential travel market that requires only 'tapping', and every progressive road has its plans pretty well formulated to go out and get the passenger business—and at a profit.

"Also, a complete freight service is designed to accommodate mass tonnage at high speed, safely, with dependability, and at low cost. Here again we are not talking about air speed. We are talking about dependable over-night service between centers around 400 miles apart, with corresponding service for longer distances."

To provide this super-service by the railroads, Mr. Symes is of the opinion that nearly one billion dollars a year will have to be spent for the next five years for replacements of worn and obsolete equipment, and to catch up on existing deferred maintenance.

Roomy Trains Promised — "There will be varying types of all coach trains," Mr. Symes said. "The night trains will have comfortable reclining seats, plenty of room to spread out, with adequate dining and lounging facilities. There will be fast all-coach day trains between the larger cities. Pullman accommodations will be diversified to meet the varying demands of the public. The old open upper and lower berth car will be a thing of the past, and all new cars will be of the room type with private toilet facilities.

"We feel that if we can accomplish these things, and at the same time have established a national transportation policy, based on fair and equitable treatment to all forms of transportation, the future of the railroad industry, so essential to the welfare of this nation, will be assured."

Mr. Symes said that he does not belong to the small army of chronic pessimists who underestimate the ability of the American people to find the proper solution for our post-war problems in the railroad industry or any other industry.

"The thinking citizens of this nation mold public opinion," he continued, "and I think public opinion is asserting itself right now, so that the way will be paved for the kind of cooperation between labor and management that will carry on the miracle production of war into the miracle production of peace—and that peace-time prosperity and the standard of living of our people will be greater and better than ever before.

"The management of American railroads is confident that rail transportation will successfully meet and survive the competition of the future. We know it will be a difficult task—that it depends upon the successful cooperation of labor, management and capital, sided by intelligent policies of state and federal regulatory bodies. This country needs and must have the economy of mass production of transportation, which only the railroads can provide, and you are not only going to have it, but it will be better than ever before."

The election of officers on the second day of the annual meeting resulted in the choice of the following for the coming year:

General chairman, H. A. Hollopeter, traffic director of the Indiana State Chamber of Commerce, Indianapolis, Ind.: alternate chairman, S. C. Higgins, secretary of the New River Coal Operators Association, Mt. Hope, W. Va.; executive committee chairman, J. P. Haynes, manager traffic department of the Board of Trade, Louisville, Ky.; executive committee vice-chairman, A. F. Dorenbusch, traffic manager of the Raymond Bag Company, Middletown, Ohio; general secretary, C. W. Memke, traffic manager of the Edwards Manufacturing Company, Cincinnati.

Central Vermont Celebrates Its 100th Birthday

"Quietly going about its business of transporting men and women and children and merchandise," the Central Vermont Railway (now part of the Canadian National) on December 15 celebrated its 100th anniversary. The railroad which began as the Vermont Central under terms of a charter granted in 1843, cost $8,000 per mile to build, and was opened in sections, the first regular passenger train operating between White River Junction and Bethel June 26, 1847.

Under a reorganization which took place in 1873, the Central Vermont became the largest railroad in New England. In the decade from 1875-1885 the system was at its peak. More financial crises followed, however, and in 1927 the railroad was practically wiped out by floods between Essex Junction and White River Junction. It is at present operating as a C. N. R. subsidiary.

Equipment on Order

Class I railroads on December 1, had 35,908 new freight cars on order, according to the Association of American Railroads. On the same date last year they had 28,910 on order.

This year's December 1 total included 12,421 hopper, 4,425 gondola, 971 flat, 13,736 plain box, 3,568 automobile, 737 refrigerator, and 50 miscellaneous cars.

The Class I roads also had 484 locomotives on order on December 1 compared with 495 on the same day in 1944. The former total included 104 steam, four electric, and 376 Diesel-electric locomotives, compared with 90 steam, two electric and 403 Diesel-electrics one years ago.

Class I roads put 36,418 new freight cars in service in the first 11 months this year compared with 35,972 in the same period last year. Those installed this year included 8,119 hopper, 5,637 gondola, 765 flat, 239 stock, 1,858 refrigerator, 1,919 automobile and 17,782 plain box freight cars, and 99 miscellaneous cars.

They also put 602 new locomotives in

Selected Income and Balance-Sheet Items of Class I Steam Railways

Compiled from 131 reports (Form IBS) representing 135 steam railways
(Switching and Terminal Companies Not Included)

Income Items	All Class I Railways: For the month of September 1945	For the month of September 1944	For the nine months of 1945	For the nine months of 1944
1. Net railway operating income	$43,976,186	$90,128,548	$765,540,328	$842,106,037
2. Other income	13,636,399	14,705,421	135,112,718	134,467,152
3. Total income	57,612,585	104,833,969	900,653,046	976,573,189
4. Miscellaneous deductions from income	3,581,115	2,602,546	23,944,200	30,173,213
5. Income available for fixed charges	54,031,470	102,231,423	876,708,846	946,399,976
6. Fixed charges:				
Rent for leased roads and equipment	10,708,988	14,356,821	109,640,149	118,104,443
Interest deductions[1]	31,613,556	28,457,083	289,226,587	304,371,850
Other deductions	114,404	122,903	1,007,485	1,162,411
Total fixed charges	42,436,948	42,936,807	399,874,221	423,638,704
7. Income after fixed charges	11,594,522	59,294,616	476,834,625	522,761,272
8. Contingent charges	2,745,652	2,791,601	25,269,600	25,406,163
9. Net income	8,848,870	56,503,015	451,565,025	497,355,109
10. Depreciation (Way and structures and Equipment)	27,926,614	27,207,500	249,519,663	240,150,074
11. Amortization of defense projects	123,192,082	16,617,578	281,282,322	137,587,372
12. Federal income taxes	39,260,842	119,556,494	707,108,096	1,017,679,259
13. Dividend appropriations:				
On common stock	4,602,992	4,650,062	103,412,595	95,138,695
On preferred stock	495,507	1,073,187	27,177,864	34,721,379
Ratio of income to fixed charges	1.27	2.38	2.19	2.23

Selected Asset and Liability Items	All Class I Railways: Balance at end of September 1945	Balance at end of September 1944
17. Expenditures (gross) for additions and betterments—Road	$167,476,803	.....
18. Expenditures (gross) for additions and betterments—Equipment	210,137,259	.....
19. Investments in stocks, bonds, etc., other than those of affiliated companies (Total, Account 707)	542,726,421	$589,204,185
20. Other unadjusted debits	372,613,649	429,919,529
21. Cash	1,147,362,337	1,141,961,106
22. Temporary cash investments	1,748,564,065	1,754,009,182
23. Special deposits	183,019,681	170,407,219
24. Loans and bills receivable	417,685	327,679
25. Traffic and car-service balances—Dr.	39,758,153	42,510,776
26. Net balance receivable from agents and conductors	119,096,253	145,151,527
27. Miscellaneous accounts receivable	634,056,095	628,381,271
28. Materials and supplies	605,927,512	601,865,018
29. Interest and dividends receivable	36,313,695	28,165,126
30. Rents receivable	3,782,427	2,556,026
31. Other current assets	47,497,158	64,912,040
32. Total current assets (items 21 to 31)	4,565,795,061	4,580,246,970
40. Funded debt maturing within 6 months[2]	247,796,732	267,749,695
41. Loans and bills payable	5,308,001	12,188,386
42. Traffic and car-service balances—Cr.	186,842,072	213,957,052
43. Audited accounts and wages payable	443,893,680	429,479,014
44. Miscellaneous accounts payable	202,616,285	140,822,619
45. Interest matured unpaid	74,398,868	60,146,970
46. Dividends matured unpaid	15,209,169	15,057,936
47. Unmatured interest accrued	60,766,062	64,702,996
48. Unmatured dividends declared	8,276,825	7,410,890
49. Unmatured rents accrued	23,401,272	24,930,497
50. Taxes accrued	1,419,620,974	1,793,048,580
51. Other current liabilities	119,335,285	100,069,309
52. Total current liabilities (items 41 to 51)	2,559,578,493	2,861,814,249
53. Analysis of taxes accrued:		
U. S. Government taxes	1,247,310,802	1,622,072,097
Other than U. S. Government taxes	172,310,172	170,976,483
54. Other unadjusted credits	535,945,361	458,510,567

[1] Represents accruals, including the amount in default.
[2] Includes payments of principal of long-term debt (other than long-term debt in default) which will become due within six months after close of month of report.
Compiled by the Bureau of Transport Economics and Statistics, Interstate Commerce Commission. Subject to revision.

service in the first eleven months of 1945, of which 92 were steam and 510 were Diesel-electrics. New locomotives installed in the same period last year totaled 846, which included 305 steam, one electric and 540 Diesel-electrics.

Damage to Cars by Heating

In a circular letter dated November 28, Secretary A. C. Browning of the A.A.R. Mechanical Division submits the following comments by the Arbitration Committee regarding damage to car structures by use of heating devices to facilitate unloading of frozen coal and similar commodities.

Because of the unusually severe winter of 1944-45, the railroads and consignees of coal and other bulk shipments in open top cars found it very difficult to unload the cars on account of the moisture in the commodities freezing so that they would not flow readily through the hoppers or door openings. Various means were used to loosen or thaw the lading to facilitate unloading.

Heat when properly applied and adequately controlled affords a satisfactory and effective means for dislodging frozen lading, but when open flames of high temperature are concentrated on vital parts of cars, warping, sagging, distortion and other damage is caused which frequently results in the equipment being rendered unserviceable and requiring considerable expenditure for repairs.

It is the obligation of individual railroads to prevent damage to foreign cars in their possession and to use their influence to insure that industries and other consignees on their line will adopt and use unloading methods that will not be destructive to car equipment, and where heat is used to advise them of the proper use, to avoid the damage that has been experienced in the past.

Provisions are being incorporated in the interchange rules effective January 1, 1946, to make the handling line responsible for damage to cars resulting from open flames used to thaw out frozen lading where the damage is in excess of specified limits, and thereafter defect cars will be required in interchange so that the cost of repairing the damage will be borne by the railroad on (or industry) which the damage occurred.

In order to avoid this penalty and to obviate the necessity of such cars being removed from service to effect repairs, it is recommended that individual railroads take appropriate action to check the unloading conditions on their lines and co-operate with industries and consignees to the end that frozen lading will be unloaded with the minimum of damage.

Shippers Research Unit Formed by Airlines

Formation of a Shippers Research Division which will begin work shortly after January 1 on the study and preparation of regulations "dealing with the safe transportation of hazardous commodities by air carriers" has been announced by the Air Transport Association. The division, as the A. T. A. announcement put it, will be headed by "an expert chemist experienced in both general and laboratory work in this field." Meanwhile "tentative plans" have been made with an independent laboratory to carry on experiments for the division.

C. A. & E. Men Want Back Pay

Represented by an attorney, 300 workers of the Chicago, Aurora & Elgin have filed a petition before Federal Judge John P. Barnes at Chicago, asking for back pay totaling $86,522, on the assertion that this was the sum lost to them when they suffered a 10 per cent pay reduction from June, 1939, to June, 1941.

Attorney Joseph H. Perry, representing the men, alleged that the pay contract in effect when the reduction was placed in operation, stipulated that the lost pay would be returned to the workers if the road subsequently made money and that the return could be made on the basis of later income.

Attorneys for the trustees of the road countered with the claim that the wage contract covered only the period from June, 1939, to June, 1941, and therefore did not affect subsequent income. Judge Barnes referred the case to Nathan W. MacChesney, master in chancery, and requested a report from that official in four weeks.

Grain Loading Statistics

A continued acute shortage of box cars is attributed in part to the heavier loadings of grain this year as compared with last, according to the Office of Defense Transportation, which reports that, in the first 45 weeks of 1945, a total of 2,374,788 cars of grain and grain products were moved as compared with 2,204,397 in the same period of 1944, or an increase of 170,391 cars.

Up to and including the week ended

March 17, the 1945 movement of grain and grain products was 104,787 cars below 1944, but since then the grain movement each week has been heavier than in the corresponding week of 1944, with the single exception of the week ending July 7. The fact that in these 34 weeks the railroads were able to offset the deficit shown in the first 11 weeks indicates, said O. D. T. Director Johnson, that "the railroads and all interested in the grain and grain products movement have been doing an exceptionally good job."

Chicago-Omaha-Denver Service of Burlington Now Dieselized

With the recent acquisition of ten 4,000-hp. Diesel-electric locomotives and the pooling of them with five similar units, the passenger train service of the Chicago, Burlington & Quincy is now fully Dieselized between Chicago, Omaha, Neb., and Denver, Colo. Including its Zephyrs, the Burlington, which introduced Diesel-electric passenger train service to the traveling public in 1934, now has 27 Diesel-electric passenger locomotives, one of the largest such fleets in the world.

With the new locomotives in operation the following Burlington trains, in addition to the Zephyrs, will be Dieselized:

Nos. 39-40, the Exposition Flyer between Chicago and Denver; Nos. 5-30, the Ak-Sar-Ben, between Chicago and Omaha; No. 11, the Advance Flyer from Chicago to Lincoln, Neb.; Nos. 15-8, the Fast Mail between Chicago and Lincoln; Nos. 7-3, and 12, between Chicago and Denver; Nos. 55-56, the American Royal between Chicago and Kansas City, Mo.; No. 9, between Chicago and Galesburg, Ill.; No. 6, between Omaha and Chicago, and Nos. 43-42, between Lincoln and Ravenna, Neb.

Snow Hits Buffalo Area

A snowfall ranging up to 5 ft. hit the Buffalo, N. Y., section on December 16-17, bringing a Car Service Division embargo on freight destined to the area. On December 19 the New York Central reported that its through passenger trains were moving through the storm-stricken zone, subject to several hours' delay. Some eastward freight began moving on the morning of that day, and westward freight was expected to begin moving by evening. The line via Suspension Bridge has not been tied up.

The Lehigh Valley on Wednesday reported that its through traffic, especially its interchange with connections into Canada, had not ceased to move, although some delays were occurring.

The Erie and Delaware, Lackawanna & Western reported that main lines were open and yard conditions in Buffalo were improved somewhat on Wednesday (December 19) as compared to conditions on Tuesday following the height of the storm. Both through freight and passenger traffic were being maintained on slightly delaved schedules. Weather predictions on Wednesday for about 12 in. additional snow in the following 24 hr. aroused apprehension that some additional difficulty might be encountered.

Wage Negotiations Fail; Mediation Begins

The National Mediation Board, at the request of the carriers, began proceedings in Chicago on December 18, in the current wage controversy between the railroads and 20 labor organizations. Spokesmen for the roads said that the previous negotiations were stalled on the issue of certain rule changes demanded by two of the unions which, together with the organizations' wage demands, would add $2 billion annually to railway costs, according to the carriers' estimates.

Restrictions on the length of freight and passenger trains and more than half a hundred other rule changes insisted upon by the Brotherhood of Locomotive Engineers and the Brotherhood of Railroad Trainmen would in themselves add $785 million annually to railway expenses, according to the carriers, and general wage increases demanded would boost the total to more than $2 billion.

Notice that the railroads would ask the National Mediation Board to intervene in the negotiations was given union representatives at a conference in Chicago the morning of December 13, following several weeks of negotiations. Carrier spokesmen saw little prospect for a settlement of the wage issue so long as two of the unions insisted on their demands for rule changes.

The non-operating group of 15 unions had reached an agreement among themselves and with the carriers to narrow the issues down to wages, and three of the five operating brotherhoods had taken the position that an increase in wages was the paramount issue. Carrier spokesmen said that they were in agreement with these two groups that consideration of the 50-odd rule changes demanded by the unions and the counter proposals made by the carriers would delay a wage settlement indefinitely.

The carriers said they were unable to make any headway with wage negotiations with the 18 unions because the rule demands of the other two affect railroad operations generally and cannot be confined to the two organizations which are insisting on them. The situation is further complicated by the fact that membership in the five operating brotherhoods is overlapping and not restricted to definite classes of employment.

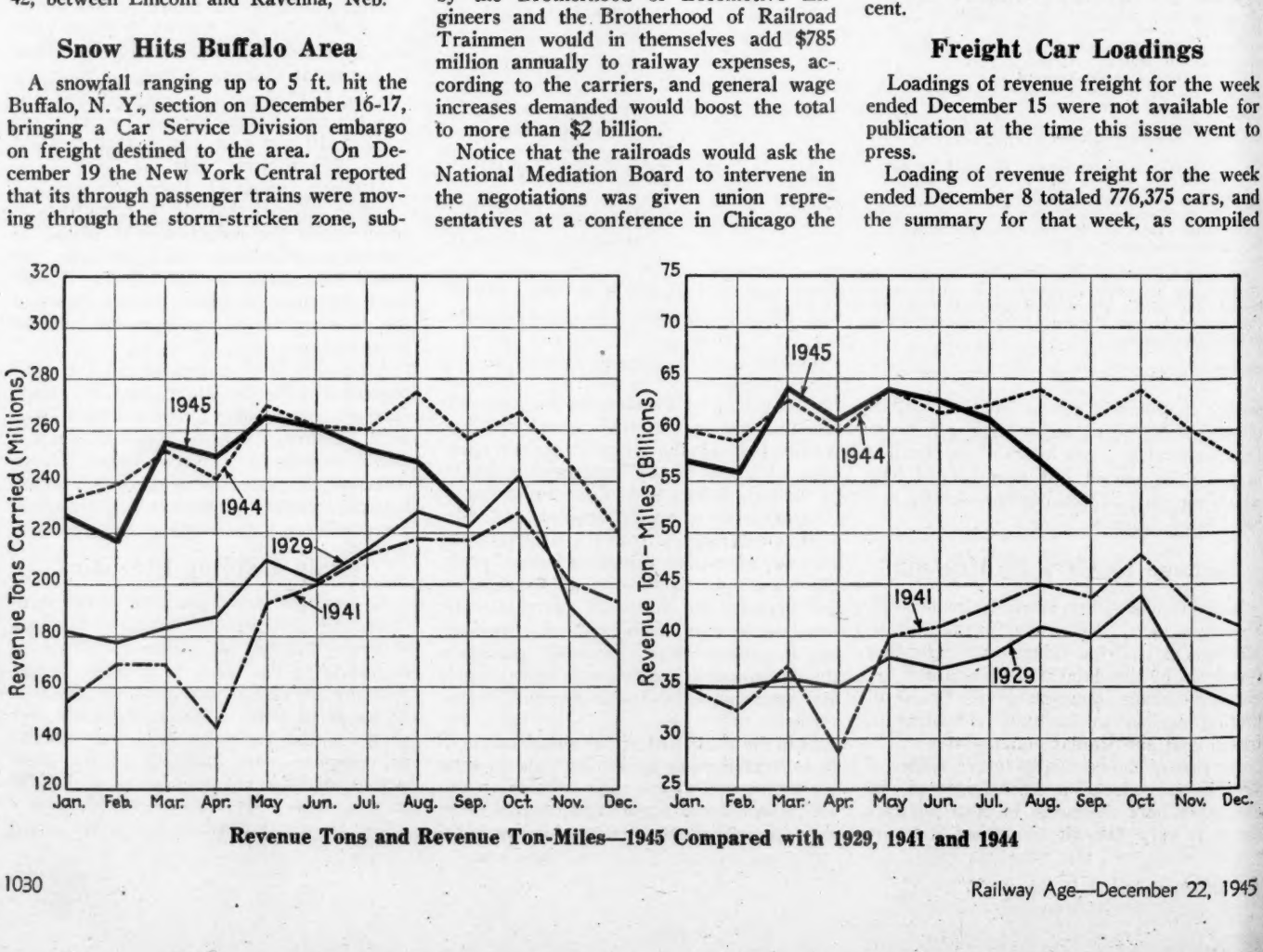
November Operating Revenues 15.1 Per Cent Under 1944

From preliminary reports of Class I roads representing 80.7 per cent of total operating revenues, the Association of American Railroads has estimated that the November gross totaled $534,870,415, a decrease of 15.1 per cent below the $630,086,937 reported for November, 1944. Estimated October freight revenues were $375,066,134 compared with $470,360,870, a decrease of 20.3 per cent. Estimated passenger revenues were $117,311,340 compared with $114,234,977, an increase of 2.7 per cent.

Freight Car Loadings

Loadings of revenue freight for the week ended December 15 were not available for publication at the time this issue went to press.

Loading of revenue freight for the week ended December 8 totaled 776,375 cars, and the summary for that week, as compiled



Revenue Tons and Revenue Ton-Miles—1945 Compared with 1929, 1941 and 1944

by the Car Service Division, A. A. R., follows:

Revenue Freight Car Loading

For the Week Ended Saturday, December 8 District	1945	1944	1943
Eastern	150,455	153,923	519,634
Allegheny	162,395	172,371	181,752
Pocahontas	54,132	53,697	59,556
Southern	121,826	122,423	128,034
Northwestern	92,555	89,475	90,906
Central Western	130,268	129,080	128,189
Southwestern	64,744	72,187	75,240
Total Western Districts	287,567	290,742	294,335
Total All Roads	776,375	793,156	823,311
Commodities			
Grain and grain products	58,863	44,175	53,391
Live stock	21,040	20,091	18,529
Coal	174,419	169,200	189,146
Coke	13,004	13,364	15,714
Forest products	30,285	39,718	45,164
Ore	11,665	12,184	17,439
Merchandise l.c.l.	117,250	106,955	103,996
Miscellaneous	349,849	387,469	379,932
December 8	776,375	793,156	823,311
December 1	803,770	807,836	862,733
November 24	716,494	768,338	819,832
November 17	800,361	863,992	882,287
November 10	838,218	839,504	847,972
Cumulative Total, 49 Weeks	39,935,006	41,310,205	40,396,590

In Canada.—Carloadings for the week ended December 8 totaled 72,678 as compared with 73,296 for the previous week and 72,865 for the corresponding period last year, according to the compilation of the Dominion Bureau of Statistics.

Totals for Canada:	Total Cars Loaded	Total Cars Rec'd from Connections
Dec. 8, 1945	72,678	33,059
Dec. 9, 1945	72,865	39,683
Cumulative Totals for Canada:		
Dec. 8, 1945	3,437,512	1,712,137
Dec. 9, 1945	3,483,200	1,887,472

Seaboard Collision at Kollocks

At 3:45 a. m., December 16, the Seaboard Air Line's Florida-bound "Silver Meteor," running about 1 hr. 10 min. late, collided with the northbound "Sun Queen," running 15 min. late, at Kollocks, S. C., as the latter train was pulling into the siding to meet the southbound train. There were six fatalities, including the engineer of the Silver Meteor (W. W. Shoemaker, of Raleigh, N. C.), and 51 injuries. Five cars on each train were derailed, as well as the locomotive of the Meteor. At the time of the wreck, according to a railroad spokesman, the weather was "slightly cloudy" and the temperature was about 30 degrees.

Cause of the accident is under formal investigation. W. T. White, a Seaboard officer, reported that train operation over this Hamlet-Columbia line is "by timetable, train orders and manual block system."

D. E. M. A. Elects Officers

At the annual meeting of the Diesel Engine Manufacturers Association, held at Chicago on December 11, the following officers were elected for 1946:

President, E. J. Schwanhausser, vice-president of the Worthington Pump & Machinery Corp.; vice-president, Gordon Lefebvre, president of the Cooper-Bessemer Corporation; vice-president, J. E. Peterson, vice-president of the General Machinery Corporation; directors, A. W. McKinney, vice-president of the National Supply Company, and G. F. Twist, vice-president and general manager of the Atlas Imperial Diesel Engine Company. Robert H. Morse, Jr., vice-president and general manager of Fairbanks, Morse & Co., was re-elected **treasurer.**

Among the topics discussed at the meeting were revision of the organization's book of standard practices, educational activities, legislation, termination and renegotiation of government contracts, price ceilings, surplus engines, railroad rates and tariff.

Southeastern Board Decries Labor Disputes

Shippers of nine southeastern states registered a vehement protest against the present labor disputes at the meeting of the Southeastern Shippers Advisory Board at the Peabody Hotel, Memphis, Tenn., on December 13. The theme of the meeting was: "Peace has come, but what will transportation become?" E. F. Lacey, executive secretary of the National Industrial Traffic League, served notice on the railways that better service would be expected by the shippers from now on.

In opening the meeting, General Chairman J. J. Kornfeld, traffic manager of the New Orleans Public Service Commission, said: "Some may feel that, since our primary objectives are adequate transportation, such things as labor unrest and production shortages, regardless of responsibility, are no business of ours. I do not agree. We as an organization have a responsibility and an obligation.

"As usual, we, as consumers, find ourselves between two belligerents, labor and management, and are being buffeted around to a degree where we will endure no more of it in silence. We are interested in transportation, but transportation depends upon production and production, in turn, depends on labor.

"Based on our own experience, we know it is possible for the different groups of our economic life to sit around a table and work out all problems to their mutual benefit. Why, then, can't labor and management do the same without recourse to governmental agencies?"

The board voted to send copies of Mr. Kornfeld's remarks to President Truman and to each of the other 12 shippers boards.

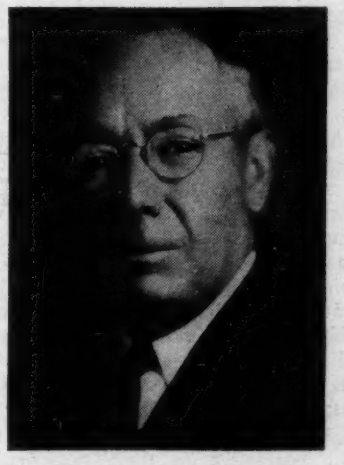
Mr. Lacey traced the history of the N. I. T. League and outlined some of its activities. After complimenting the railways' war-time performance, he stated that government ownership of railways had cost the taxpayers $2 million per day in World War I, whereas under private operation during World War II, the railways had paid in $3 million per day in taxes. He warned the railways, however, that, at present, shippers are not getting the service which they are entitled to and are paying for and that transportation must serve industry rather than industry serve transportation. "Cars must be built to fit the loads," he said, "rather than to make loads to fit the cars."

The commodity committees estimated a decrease in loadings from 998,451 to 965,285 cars, or 3.3 per cent, in the southeastern territory during the first quarter of 1946. Decreases of 33,197 cars of miscellaneous freight and 21,054 cars of petroleum and products are expected, but lumber and forest products loadings are expected to increase 27,190 cars, or 15 per cent. The net decrease in all commodities is expected to amount to 33,166 cars.

W. I. Cantley Retires

W. I. Cantley, mechanical engineer, Mechanical Division, Association of American Railroads, with headquarters in Chicago, will retire on December 31. Mr. Cantley was born in Philadelphia, Pa., July 19, 1883, and was educated in private schools and Drexel Institute, Philadelphia. He entered the engineering department of the Baldwin Locomotive Works in 1902 and worked continuously until 1915 as draftsman, test engineer, and designer. On November 1, 1915, he was appointed assistant mechanical engineer of the Lehigh Valley and on March 15, 1918, was promoted to the position of mechanical engineer. He resigned from the latter position at the end of 1937 to become mechanical engineer, in charge of research, Mechanical Division, A.A.R.

Mr. Cantley began his service as a member of the Mechanical Division as a member of the Locomotive Construction Committee in 1919 and served continuously on various committees until 1938. From 1927 through 1937 he was chairman of the Locomotive Construction Committee. He has been chairman of fourteen special committees on axle research and crank-pin research, specifications for new passenger cars, helical springs for freight cars, journal bearing development, locomotive counterbalance standards, tests of lubricants for roller bearings, development of hot-box



W. I. Cantley

alarm devices, A.A.R. automobile decking device, wheel-slide-control devices, tests of refrigerator cars, trucks for high-speed freight service, etc. All activities of these committees, such as laboratory tests, road tests, special investigations, etc., were coordinated under Mr. Cantley's supervision.

Mr. Cantley is also a member of the General Committee, Railroad Division, A.S.M.E., and has served on the A.S.A. War Committee on Standardization of Screw Threads, the A.A.R. Joint Committee on Metric System, and several others. The greater portion of his time has been devoted to the special research projects inaugurated from time to time, but he also attended many of their meetings and cooperated with Mechanical Division standing committees, in some instances doing special work for them. He has also been of material assistance to manufacturers of railroad equipment, inventors, individual railroad officers, and others who sought advice or help on railroad mechanical problems.

With the Government Agencies

Rules Fertilizer Is Not Military Freight

Court upholds carriers' view land-grant rates are not applicable

In the case of phosphate rock being shipped to England as fertilizer under lend-lease, wherein the Department of Justice contended that the railroad (the Seaboard Air Line) should allow land-grant rates on the contention that such traffic was "military or naval property of the United States moving for military or naval and not for civil use" (*Railway Age*, April 21, page 702), the Circuit Court of Appeals for the Fourth District (Norfolk, Va.) has affirmed the judgment of the district court that this traffic should bear full-scale commercial rates.

Decision was given on December 13 by Circuit Judges Soper and Dobie and District Judge Barksdale, the opinion being written by Judge Dobie, who, in reviewing the action of the lower court said in part:

"This case involves only one question. Phosphates, owned by the United States were shipped over the Seaboard Air Line, consigned to the British Ministry of War Transport under the Lend-Lease Act, for use as fertilizer by the farmers of Great Britain. Did these phosphates fall within the category 'military or naval property of the United States moving for military or naval and not for civil use,' as those words were used in Section 321(a) of the Transportation Act of 1940?

"Government contends that, at the time of the enactment of the Transportation Act, England was in a desperate plight in World War III, and that, since this titanic struggle involved and deeply touched the lives of all the citizens of a warring country, the phrase 'military or naval' must be given a very broad meaning. With this we heartily agree. We also give cheerful assent to government's assertion that the Lend-Lease Act was enacted as a defense measure, not as a program of humanitarian charity. But we cannot go along with government's contention that, as a necessary consequence, all goods, regardless of their nature, function or use, shipped to England under the Lend-Lease Act were 'military or naval property,' 'moving for military for military or naval and not for civil use,' as these words were used in the Transportation Act.

"The Transportation Act was passed before the Lend-Lease Act. We must presume that Congress deliberately used the words 'military or naval' in their generally accepted meaning. And we cannot accept government's statement that the words 'not for civil use' in the Transportation Act were mere surplusage. On the contrary, we think those words clearly show a distinction (however difficult in practice) between the military or naval on the one hand, and the civil on the other hand. Had this not been the Congressional intention, appropriate words for that purpose were readily available.

"An even stronger reason against the government's contention is the fact that the whole history and administration of the Lend-Lease Act show definitely that two separate types of assistance were contemplated: (1) military or naval; (2) civil. Nowhere is this more cogently shown than in the numerous reports of President Roosevelt to Congress on just what had been done in administering the Lend-Lease Act. On the strength of these reports, Congress continued to make further Lend-Lease appropriations and no amendment of the Transportation Act was made or sought. Thus Chapter 3 of the Fourth Report expressly divides Lend-Lease goods already shipped into three classes: (1) military, (2) industrial, and (3) agricultural. A like classification is found in the Fifth Report. The same is true of the Seventh Report where it is stated: 'Exports of *military* items have arisen much more rapidly than exports of *non-military* items.'"

Higher Ceiling Price on Forged Steel Axles

Base ceiling prices of forged steel railway axles have been increased from $3.15 per 100 pounds to $3.50 by the Office of Price Administration. The increase, effective December 19, came in Amendment No. 23 to Revised Maximum Price Regulation No. 136—Machines, Parts and Industrial Equipment.

It was designed, the O. P. A. announcement said, "to cover increases in direct materials costs and labor rates experienced by producers since 1941," and is authorized under the price agency's "product standard" basis of price adjustment. The announcement explained that the ceiling applies to axles in the rough, and that prices for completely finished axles include also the costs of extra work and treatment, switching charges and freight from the producer's basing point. Basing points are Pittsburgh, Pa., Chicago, and Birmingham, Ala.

President Signs Bill to Tax Equipment in D. C.

President Truman has signed the recently-enacted bill, S. 1278, to provide for the taxation of rolling stock of railroads and other companies operated in the District of Columbia. The bill was sponsored by Senator Bilbo, Democrat of Mississippi, chairman of the Senate committee on the District of Columbia, after such legislation had been requested by the commissioners of the District.

ODT Orders Fast Troop Train Speeds

Says "normal" passenger train schedules in West must be "maintained"

Railroads participating in the movement of troop trains west of the Mississippi river have been instructed by the Office of Defense Transportation to operate such trains on schedules as fast as those published for regular passenger trains on the same lines. This requirement was contained in O. D. T. General Order No. 59, effective December 19 until March 1, 1946.

Applies West of Mississippi—The order directs each railroad operating "in whole or in part" west of the Mississippi to "establish and maintain" schedules for troop trains, or empty deadhead equipment intended for the movement of troops, at speeds equal to "normal" passenger train schedules "established and maintained" over its lines.

This order was intended to accelerate the movement inland of Army and Navy personnel arriving at West Coast ports, according to the O. D. T., which went on to point out that troop movements this month are heavier than in any month since the beginning of the war. Arrivals of service men on both coasts will total some 1,073,000 men in December, O. D. T. Director J. Monroe Johnson was quoted as saying. If the number of men who will be making trips to or from Army or Navy installations in this country is added to this figure, the total will reach 1,500,000, a "new record for military travel," he pointed out.

The load on the railroads is the more acute because personnel movements from Pacific coast ports will reach a peak of 490,000 men in December, Colonel Johnson went on to say. Aside from the "comparatively few"—that is, about 37,000 men—who can be carried by air, all of these men must be moved from these ports during the period most subject to winter storms by the seven lines of railroad serving that area, he observed, and these lines are "mostly single track, traversing deserts and mountains."

As of December 14, according to the O. D. T., the average movement by train from West Coast ports was 20,109 troops daily for the preceding five days. Scheduled arrivals for the following five days, however, average 34,438 men per day. As of midnight December 13, there was a "backlog" of 17,170 troops on the West Coast who had been "processed" and were awaiting transportation, either at shore installations that were filled to capacity or on shipboard when no housing was available for them on land.

While "every effort is being made," the O. D. T. explained in a December 16 statement, to shift rail equipment to the West Coast to meet this need, it is also true that the distance from the Pacific ports to the principal centers of population puts a heavier burden on the railroads than other movements of comparable magnitude. Under the program which contemplates sleeping car accommodations for men who are required to travel 48 hrs. or more to reach distribution centers, 85 per cent of the men arriving at West Coast ports require such space, while only 15 per cent can reach their destinations within the 48-hr. limit for which coaches are regularly provided. The situation on the East Coast has been just the reverse; that is, 85 per cent of the men could be moved in coaches and only 15 per cent required sleeping car accommodations.

Travel 90 Per Cent Military—To indicate what this situation means to the "civilian" traveler, the O. D. T. pointed out that an actual count made by the railroads showed that on all trains leaving West Coast terminals on December 5, 6, and 7, military personnel occupied 89.1 per cent of all beds and berths and 90.4 per cent of all seats, leaving for "civilian" passengers only about 10 per cent of the available space. While only 70 per cent of scheduled plane space from the Pacific coast terminals to the East is allocated to military travel, it was suggested that the amount left for "civilian" patronage is likely to be considerably reduced by unusually heavy mail shipments.

"It is as plain as pikestaff," Colonel Johnson declared, that there simply is not enough railroad equipment available to move all the military personnel for which accommodations are required and at the same time to handle the expected record-breaking holiday load of "civilian" travel. "The fact must be faced that as far as passenger transportation is concerned wartime conditions will prevail throughout the holiday season. The primary concern of the O. D. T. and the railroads, at this particular time, is to bring the boys home as soon as possible. Even if freight must be set aside for lack of railroad capacity to meet all demands, the troops will be moved."

Growing "Backlog"—According to a War Department statement analyzing the expected effect of the transfer to the western troop movement of an additional 1,000 coaches, arrangements for which were reported in *Railway Age* last week, there was a "backlog" of 11,300 Army personnel at San Francisco on December 11 who had waited for rail transportation more than 48 hours. The "backlog" at Seattle and Los Angeles on that date was 2,500 men. In the last half of December ship schedules call for the arrival at West Coast ports of 224,000 troops. Equipment in service prior to the assignment of the 1,000 additional coaches would accommodate about 144,000 men. If the additional 1,000 coaches are available, according to Army calculations, the remaining 80,000 can be accommodated.

Pointing out that the "serious transportation situation on the West Coast" would "undoubtedly" not have been so critical if 1,200 troop sleepers which were ordered for delivery by the end of the year had not been delayed by a strike at the plant manufacturing "berthing equipment," the Army statement observed that it is impossible, "apparently," for the Pullman Company to furnish sleeping car equipment for all troops arriving at West Coast ports for transfer to eastern personnel centers. "Maximum possible use is being made of all Pullman equipment available to the Army," it said, "with many cars being deadheaded for the sake of speed from Chicago and other mid-west points all the way to the Pacific seaboard. However, even though thousands of troops will have to make long trips, perhaps cross-country, in day coaches, they will get home without undue delay."

The transfer to the West Coast of an additional 1,000 coaches, the War Department statement added, "will create a shortage for civilian travelers, especially during the holiday season. But the War Department believes that the public will indorse its contention that overseas veterans, many of whom are returning for their first Christmas holiday at home in four years, are entitled to first call on transportation facilities."

As evidence that the situation at the Pacific coast ports had not changed for the better up to midnight of December 17, the War Department indicated later that the "backlog" of men who had been awaiting transportation for 48 hrs. or more had increased, as of that time, to 35,069. Meanwhile additional arrivals were exceeding the capacity both of the military shore establishments and of the western railroads, according to a letter from John J. Pelley, president of the Association of American Railroads, which Senator O'Mahoney, Democrat, Wyoming, placed in the Congressional Record of December 18.

115,000 Arrive in Three Days—"During the 7-day period ending December 21 it is anticipated that arrivals of service men on the Pacific Coast will average more than 31,000 a day," Mr. Pelley wrote. "This is in addition to the anticipated arrival of approximately 16,000 men a day during the same week in Atlantic ports."

Arrivals on the West Coast on December 17 alone were expected to total 47,846, the letter stated, and schedules called for the arrival of 38,468 on December 18 and another 28,373 on December 19, a total of almost 115,000 men in three days. To handle all their traffic the railroads have available 10,217 coaches of all-steel construction, suitable for long-distance through service, 6,800 regular Pullman sleeping cars, and 1,400 special troop sleeping cars, Mr. Pelley pointed out. "They would have had more," he pointed out, "but for war-time limitations on the use of materials which, for 4 years, made it impossible to secure additional passenger cars." More than one-third of the coaches and about four-fifths of all sleeping car beds are now in direct military service in troop trains, he added, and in addition large numbers of service personnel are being moved on regular trains.

New O. D. T. General Counsel

Appointment of Francis A. Silver of Butte, Mont., as general counsel of the Office of Defense Transportation, effective December 17, has been announced. Mr. Silver succeeds Clair M. Roddewig, who has resigned to become general counsel of the Chicago & Eastern Illinois with headquarters at Chicago.

Mr. Silver had been assistant general counsel of the O. D. T. since August 17, 1942. Previous to that he was, for six years, a principal attorney for the Interstate Commerce Commission; and before his connection with the I. C. C. he was attorney for the Montana State Railroad Commission. Mr. Roddewig, who is a native of Nebraska, was successively assistant attorney general and attorney general of South Dakota, before joining the legal staff of the I. C. C. in Minneapolis, Minn., in 1939. He became assistant general counsel of the O. D. T. in October, 1943, and general counsel on July 29, 1944.

Emergency Board Report

The National Railway Labor Panel emergency board which Panel Chairman H. H. Schwartz appointed recently to investigate a dispute between the Northern Pacific and its dining car employees represented by the Order of Railway Conductors has reported to President Truman with a recommendation that the employees' demand for a reduction in the number of hours comprising a basic month's work be denied. The demand was for a cut in the basic monthly hours from 240 to 192 with time-and-one-half for all work in excess of 192 hours.

Noting that the demand was filed prior to the January, 1944, wage settlement which followed 1943's year-end strike threat and that part of that settlement with the operating employees was an award of five cents per hour in lieu of overtime, the board ruled in effect that claims (such as the present demand) then pending for new overtime-pay arrangements were signed away in the general settlement.

Cut in I. C. C.'s Deficiency Funds Partially Restored

Additional appropriations totaling $443,000 for the Interstate Commerce Commission will be provided in the final version of the First Deficiency Appropriation Bill for the current fiscal year ending June 30, 1946, according to the conference report on the differing House and Senate versions which was adopted by the House on December 19. This is $122,000 less than the $565,000 recommended by the Bureau of the Budget, but it is $142,000 more than the $301,000 allowed by the House committee on appropriations and included in the House version of the bill.

The Senate committee on appropriations restored the I. C. C. funds to the amount recommended by the Bureau of the Budget after hearings at which it received a commission presentation made by Chairman Rogers, Commissioners Aitchison, Mahaffie and Splawn, and Secretary Bartel. And the Senate accepted its committee's recommendation, adopting an amendment to restore the $565,000 before passing the bill on December 15.

The $443,000 finally allowed includes $266,000 (instead of $306,000) for general administrative expenses; $82,000 (instead of $164,000) for motor transport regulation; $50,000 for valuation work; and

$45,000 to meet increased costs of printing and binding.

Meanwhile, the conference report accepted the Senate amendment which provides $165,000 for the Office of Defense Transportation to use in making required terminal-leave payments to employees being dropped. The bill also carries an appropriation of $25,516,000 for rivers and harbors work and an additional appropriation of $23,900 for National Mediation Board expenditures for arbitration and emergency boards.

Questions on Amortization of Emergency Facilities

The "most prevalent" questions with respect to amortization of emergency facilities, which have arisen as a result of President Truman's September 29 proclamation ending the emergency period, are answered in a mimeograph (Coll. No. 5957) issued by the Commissioner of Internal Revenue on December 13.

Among other things, the commissioner advises that, generally, facilities acquired after September 29, 1945, are eligible for amortization in the 60-month period provided in section 124(a) of the Internal Revenue Code if the taxpayer proceeded with due diligence to acquire such facilities. However, since the emergency period has been terminated prior to the beginning of the amortization period with respect to such facilities, there is no shortened period over which such facilities may be amortized.

In the case of facilities in the process of construction on September 29, the taxpayer may elect (1) to terminate the amortization period, in which event costs to September 29 may be amortized over the shortened period, and any costs subsequent to that date would be subject to depreciation to the extent allowed by the code; or (2) to complete the facility and amortize the total cost over the 60-month period, as provided in section 124(a) of the code.

Missouri Pacific Objects to I. C. C. Signal Proposal

Replying to an Interstate Commerce Commission order to show cause why it should not be required to install an "adequate block signal system" on a 73-mile section of its line from McGehee, Ark., to Colliston, La., the Missouri Pacific has asked the commission not to order it to make this installation, as it would result, in its opinion, in a waste of materials and money not attended by an improved train accident record. Serving of the show cause order was noted in *Railway Age* of November 17, page 839.

It has been this road's policy to install automatic block signals as rapidly as funds were available and materials could be obtained, in territory with heavy curvature, severe grades, and frequent train movements, the reply stated. In the years 1941-1945 it has expended $1,491,000 in the installation of 497 miles of automatic signals, and it prefers to continue this work as planned.

The line to which the show cause order applies traverses open country with few curves and light grades, the carrier informed the commission. Since the end of the war in Europe there has been a material reduction in the train-miles operated on it, as a result both of the elimination of the movement of petroleum to the East coast by rail and the cessation of armament shipments, it explained, and the present average movement is about 14 trains daily. To equip the line with automatic signals would require an expenditure of $219,000, it estimated, while manual block operation would necessitate a $12,000 initial expenditure and involve additional annual wage payments of about $37,000. As there has been no train accident in the past 32 months that could have been prevented by either an automatic or manual block system, the reply said, this expenditure could not be justified, in the road's opinion, on the ground that its accident record might be improved.

Bills to Keep Big Pipe Lines in Operation

Identical bills, H. R. 4967 and H. R. 4969, "to provide for the operation of the Big Inch and Little Big Inch pipe lines" have been introduced in the House, respectively, by Representatives Folger of North Carolina and Voorhis of California, Democrats. They would authorize and direct the Reconstruction Finance Corporation to operate the lines directly as common carriers of petroleum products or to lease or sell them under terms providing for such operation.

McCarran Proposes Census of Transportation

Because "no government" agency has the sort of basic transportation statistics needed by the Congress, and by the executive departments, for rational transportation legislation, direction, and planning," Senator McCarran, Democrat of Nevada, is sponsoring legislation to provide for a census of transportation. The bill, S. 1705, introduced by Mr. McCarran on December 18, would provide also for censuses of manufactures, mineral industries, business and distribution.

Explaining his proposal in a statement on the Senate floor, Mr. McCarran pointed out that the transportation census would cover common and contract carrier transportation by highway, water, and air; but not rail transportation, since "statistics on rail transportation are now gathered and compiled adequately by the Interstate Commerce Commission." The commission's motor carrier statistics, Mr. McCarran went on, are "neither sufficiently comprehensive nor sufficiently detailed."

Additional information with respect to transportation could also be gathered in the other censuses contemplated by the bill, according to the senator. The taking of these censuses, he said, will provide the Bureau of the Census with a "unique opportunity" to ascertain the transportation services used by the various types of business involved. He went on to assert that there are now no data showing the relative use which various business enterprises make of the different agencies of transportation; and thus "no way of measuring the contributions which the various kinds of transportation are making to industry and business."

As Mr. McCarran appraises the situation, the solution of the nation's transportation problems "is going to require a lot of straight, hard thinking." He added that "to be realistic, this thinking must be based on the most adequate body of factual data which it is possible for the Congress and the executive branches of the government to assemble."

Freight Rate Rise Opposed by Nine Northern States

On December 13, New York's Governor Thomas E. Dewey, in an affidavit filed with a three-judge United States expediting court in New York, asserted that the Interstate Commerce Commission's order increasing freight rates in northern states as a step toward interterritorial class rate equalization was a burden on industry and threatened the economic welfare of his state. The court, consisting of Judges Harrie B. Chase of the circuit court of appeals; John C. Knox of the federal district court, N. Y. southern district, and Stephen W. Brennan of the district court, N. Y. northern district, reserved decision on the application of New York and eight other northern states for an injunction staying the I.C.C. order, under which class freight rates would be increased 10 per cent in the north and reduced a like amount in the south.

Arguments for the nine states were presented by Parker McCollester, assistant attorney general of New York, who offered supporting affidavits for governors and officials of the other states. Mr. McCollester told the court the increase in class rates would cost shippers about $15,000,000 during the next year and that the I.C.C. had erroneously computed the cost of freight moving under class rates.

Wendell Berge, assistant United States attorney general, represented the federal government in opposition to the northern states' petition. Also opposing the petition were Daniel W. Knowlton, chief counsel for the I.C.C., and representatives of southern and western states. Mr. Berge contended that the present rates enabled the northern states to enjoy preferential advantages which was in the public interest to eliminate.

Name Special Master to Hear Georgia "Conspiracy" Case

The Supreme Court of the United States on December 17 announced its selection of Lloyd K. Garrison as special master to take evidence in the original suit of the State of Georgia against the Pennsylvania and other railroads, which are alleged to have conspired to fix rates harmful to the interests of that state's citizens. Mr. Garrison, chairman of the National War Labor Board, was appointed by President Truman on December 12 as a member of the so-called fact-finding board charged with the duty of investigating the General Motors Corporation strike situation, so it appeared doubtful if he would be able to proceed immediately with the Georgia suit.

The formal order of the court directs its special master to "find the facts specially and state separately his conclusions of law thereon, and to submit the same to this court with all convenient speed, together with a draft of the decree recommended by

him. The findings, conclusions, and recommended decree of the master shall be subject to consideration, revision, or approval by the court."

As reported in *Railway Age* of March 31, page 584, the Supreme Court, by a 5-to-4 decision, agreed to allow the state to sue in that court for an injunction against the defendant railroads that would prevent their joint action in making rates. The decision was regarded, particularly by Governor Arnall of Georgia and those interests, chiefly in the South, which have sought "uniform" freight rates, as a victory of considerable importance in that campaign. While the specific issue then decided was one of the court's original jurisdiction under the circumstances, the anti-trust law's prohibition of "price fixing" was taken into consideration in its opinions, and the case is generally regarded as being on the same level of importance as the anti-trust suit against the western railroads and others filed in Lincoln, Neb., by the Department of Justice.

I. C. C. Service Orders

As a result of freight house congestion resulting from the continuation of a strike affecting the operation of truck lines in the Midwest, the Interstate Commerce Commission has issued further embargoes on the acceptance of outbound l.c.l. freight at certain points in that area. Service Order No. 410, effective December 19 through 25, applied such an embargo to the Chicago, Burlington & Quincy; Northern Pacific; Chicago, Milwaukee, St. Paul & Pacific; Great Northern; Chicago, St. Paul, Minneapolis & Omaha; and Minneapolis, St. Paul & Sault Ste. Marie at all points on those lines within the switching limits of Minneapolis, Minn., St. Paul or Minnesota Transfer.

Likewise effective December 19 through 25, Service Order No. 413 made a similar embargo on outbound l.c.l. freight applicable to all lines at Des Moines, Iowa, except where freight is laded by shipper and not handled through railroad freight houses. An earlier embargo applying to Omaha and South Omaha, Neb., and Council Bluffs, Iowa, has been succeeded by a modified version, Service Order No. 414, also effective December 19 through 25, which applies to outbound l.c.l. freight handled through freight houses of the Chicago, Burlington & Quincy and Chicago & North Western. The embargo on outbound l.c.l. at Kansas City, Mo.-Kan., effected by Service Order No. 392, has been modified by the second revised version of that order, effective December 19 through 25, which applies to all such freight except perishables, and affects all roads serving those points except the Kansas City Southern, St. Louis-San Francisco, and Missouri-Kansas-Texas.

Service Order No. 416, effective from December 20 to December 26, prohibits railroads serving Lincoln, Neb., from accepting any outbound l.c.l. freight there, except that loaded by shippers which does not require handling through railroad freight houses.

Under the terms of Amendment No. 2 to Service Order No. 95, effective December 18 through May 1, 1946, unless otherwise directed, the refrigerator car agent of the commission is authorized to require any railroad to deliver or move empty refrigerator cars as directed for the purpose of equalizing the supply of such cars at points where fresh fruits and vegetables are tendered for loading.

Service Order No. 80, implementing a permit system for grain shipments, has been extended in effect beyond December 31 by Amendment No. 38, issued at the request of the Office of Defense Transportation. The new expiration date is February 15, 1946.

Service Order No. 411, effective December 22 through June 22, 1946, unless otherwise directed, provides that refrigerator cars loaded with fresh or green vegetables originating in the Salinas-Watsonville district of California may be initially bunker iced by the Western Pacific at Stockton, Cal., or San Jose or by the Southern Pacific at Roseville, at carrier's convenience, provided bunker icing of such shipments is not otherwise restricted.

By Amendment No. 1 to Service Order 394 the commission has clarified the language of that order to provide definitely that all Sundays and legal holidays are to be included in computing free time and in computing detention after expiration of free time for the purpose of determining demurrage charges on refrigerator cars. Meanwhile, the procedure of the commission in issuing certain service orders affecting the movement of fresh fruits and vegetables has been challenged by the National League of Wholesale Fresh Fruit & Vegetable Distributors and the International Apple Association, and oral argument before the commission at a date to be set has been ordered on the question of its jurisdiction to impose increased demurrage charges by service order without hearing.

Amendment No. 1 to Revised Service Order No. 371 extends from December 20 to June 20, 1946, the expiration date of that order, which was issued November 12 to prohibit railroads from furnishing box cars suitable for loading with flour or sugar for the purpose of loading ammunition for the Army or Navy.

By three amendments to Service Order No. 189, the commission has extended from January 10, 1946, to February 15, 1946, the expiration date of that order, which closes what are regarded as circuitous routes for shipment of grain and related articles.

Service Order No. 160, as amended, under which holding for orders of carload shipments of grain or seeds at certain points in Minnesota was prohibited, has been vacated by No. 160-G, effective December 15.

W. S. A. Would Linger Longer in Domestic Water Service

The War Shipping Administration has asked the Interstate Commerce Commission to extend for 180 days beyond the present December 31 expiration date its temporary authority covering operations as a common or contract carrier by water in coastwise and intercoastal service between points on the Atlantic, Gulf of Mexico, and Pacific coasts. The present W.S.A. authority was granted by the commission in September after oral argument at which the grant was opposed by the Association of American Railroads.

Equipment and Supplies

LOCOMOTIVES

The Western Maryland has ordered 12 steam freight locomotives of 4-8-4 wheel arrangement from the Baldwin Locomotive Works. Deliveries are expected about mid-year, 1946.

The Missouri-Kansas-Texas has placed an order with the Electro-Motive division of the General Motors Corporation for seven 4,500-hp. Diesel-electric freight locomotives, with delivery slated for late in 1946. The total cost will be in excess of $2,500,000. Each locomotive will consist of two 1,500-hp. lead units and one 1,500-hp. booster unit.

FREIGHT CARS

The Bessemer & Lake Erie has ordered 500 70-ton hopper cars from the Pullman-Standard Car Manufacturing Company and 250 70-ton hopper cars from the Pressed Steel Car Company.

The Donora Southern has ordered 40 40-ft. 70-ton alloy steel gondola cars from the Magor Car Corporation. The inquiry for this equipment was reported in the *Railway Age* of December 8.

The Newburgh & South Shore has ordered 100 40-ft. 70-ton alloy steel gondola cars from the Magor Car Corporation. The inquiry for this equipment was reported in the *Railway Age* of December 8.

PASSENGER CARS

Mostly Sleepers in N. Y. C. Order Placed with Budd

Of the 112 cars of stainless-steel construction ordered from the Edward G. Budd Manufacturing Company by the New York Central and announced in the December 15 *Railway Age*, page 1005, approximately 80 per cent will be sleepers with the Budd-originated-and-developed double bedroom and cabin accommodations. Other equipment in the order consists of lounge facilities, observation facilities, diners, combination kitchen and lounge cars, and baggage-dormitory cars. Deliveries of these cars, which will be used to make up eight trains, are scheduled to begin in the fall of 1946.

The 112 passenger cars are in addition to an order for 127 on which Budd is now working for the New York Central. The total cost of all of the equipment approximates $22,000,000.

Construction

Chesapeake & Ohio.—This road has awarded a contract to E. A. McCarthy & Sons, Cincinnati, Ohio, for the construction of a water station at GB Cabin (near Greggs, Ohio). Another contract has been

awarded to the Roberts & Schaefer Company, Chicago, for the construction of a coaling station and cinder conveyor at the same point. The two projects will cost $280,000.

Supply Trade

Walter Kidde & Co. have removed their sales and executive offices from New York to the main plant in Belleville, N. J.

Herbert J. Rosen, vice-president of the **Griffin Wheel Company** at Chicago, has been elected executive vice-president, with the same headquarters.

The **H. A. Smith Machine Company,** Hopewell, N. J., has been renamed the **Rockwell Machine Company,** a subsidiary of the **Rockwell Manufacturing Company.**

C. B. Smythe, vice-president, has been elected president of the **Thew Shovel Company,** Lorain, Ohio, to succeed his father, F. A. Smythe, who died on November 8.

The **Kropp Forge Company** of Chicago has announced that with the return of **Charles Foley** from overseas service, Foley & Co., of New York, again will represent them in the eastern territory.

H. D. Malone has been appointed assistant sales manager of the **American Welding & Manufacturing Co.,** Warren, Ohio. He formerly was manager of sales of the mid-west district.

John G. Barta, of the Milwaukee, Wis., district office, has been appointed manager of the Duluth, Minn., branch sales office of **Allis-Chalmers** to succeed **William H. Knight,** who has resigned.

Clarence M. Allen has been appointed branch manager of the St. Louis, Mo., office of the **Philip Carey Manufacturing Company.** Mr. Allen was assistant branch manager at the Cleveland, Ohio, office.

Walton R. Collins, of the Walton R. Collins Company, of New York, has been appointed eastern sales representative for the **Malabar Machine Company,** division of the Menasco Manufacturing Company, Burbank, Calif., and for **Joseph Sinkler, Inc.,** of Chicago.

Robert B. Warren has returned to the **Goodyear Tire & Rubber Co.** after three years as a lieutenant commander in the office of the U. S. Navy rubber director and has been appointed eastern railroad sales manager for the mechanical goods division, with headquarters in New York.

E. J. Schwanhausser, vice-president of the Worthington Pump & Machinery Corp., was elected president of the **Diesel Engine Manufacturers Association** at the association's annual meeting on December 11 in Chicago. **Gordon Lefebvre,** president of the Cooper-Bessemer Corporation, and **J. E. Peterson,** vice-president of the General Machinery Corporation, were elected vice-presidents. **Robert H. Morse, Jr.,** vice-president and general manager of Fairbanks, Morse & Co., was re-elected treasurer, and **Harvey T. Hill,** executive director, was re-elected to serve through 1946. New directors who were elected are **A. W. McKinney,** vice-president of the National Supply Company, and **G. F. Twist,** vice-president and general manager of the Atlas Imperial Diesel Engine Co.

M. J. Anderson has been appointed sales and service engineer of the **Aro Equipment Corporation** with headquarters at Aro's Bryan, Ohio, plant. **D. J. Nelson** has joined the sales organization of **F. W. Busch,** Aro's New York representative, and will sell Aro pneumatic tools in that territory.

Horace A. Deane, works manager of the Brake Shoe and Castings division of the **American Brake Shoe Company,** has been appointed a vice-president of the division. Mr. Deane is in charge of operations in 18 of the company's 57 plants, and is responsible for the production of brake shoes and miscellaneous iron castings.

E. Finley Carter, formerly vice-president in charge of industrial relations of **Sylvania Electric Products, Inc.,** has been appointed vice-president in charge of engineering to succeed **Roger M. Wise,** who has resigned. **Howard L. Richardson,** formerly manager of personnel administration, has been appointed director of industrial relations.

H. J. Ritter, former vice-president and director, has been elected president of the **Norma-Hoffman Bearings Corporation** to succeed **O. P. Wilson,** who has resigned. **Hubert L. Williams,** vice-president in charge of plant operations, also has resigned. He has been succeeded temporarily by **Percy Butchard,** director, and director of Hoffman, Ltd., of England.

Joseph B. Terbell, affiliated with various divisions of the **American Brake Shoe Company** in sales and executive capacities since 1928, has been appointed executive vice-president of Brake Shoe's American Manganese Steel division. In 1940 he was promoted from a district sales manager's position to a vice-presidency with American Manganese Steel and three years later he was appointed first vice-president.

Louis S. Hungerford, vice-president of the **Pullman Company,** has retired after 59 years of service, but will continue as consultant for **Pullman, Inc.,** the parent organization, of which he is also a vice-president. Mr. Hungerford was appointed general superintendent of the Pullman Company in 1904, and one year later he was promoted to general manager. In 1920 he was elected to the position he held at the time of his retirement.

Ralph A. Powers, formerly connected with the Bundy Tubing Company, Detroit, Mich., has resigned to become engineer-in-charge of electronics engineering of the **Allis-Chalmers Manufacturing Company,** Milwaukee, Wis., succeeding **J. M. Cage,** who has resigned. Mr. Powers received his higher education at the Massachusetts Institute of Technology, the University of Michigan and the California Institute of Technology. Prior to joining the staff of the Bundy organization he was connected with the Electronics Control Corporation, Detroit; the Chrysler Corporation, Detroit, and the Bell & Howell Co., Chicago.

B. A. Springer, hydraulic press and power tool engineer, has been appointed a sales engineer for the **Baldwin Locomotive Works.** He will be with the Chicago office of the Southwark division of Baldwin and will specialize in hydraulic presses. Mr. Springer studied mechanical engineering at the Armour Institute of Technology. Throughout the war he was active in the supervision of the installation of heavy ammunition hydraulic presses and accumulators for the piercing, drawing and nosing of shells.

The Inland Steel Company, Chicago, has announced the following retirements in its executive ranks, effective January 1: **Frank R. Meyer, Jr.,** vice-president in charge of tin plate and export sales; **L. S. Marsh,** metallurgical consultant, and **J. de N. Macomb,** manager of sales engineering, railroad sales division.

Mr. Marsh is a graduate of the University of Michigan and began his business career as a chemist of the Illinois Malleable Iron Company in 1902 and two years later he became chief inspector of the Chicago, Rock Island & Pacific, later becoming engineer of tests for the city of Chicago. He went with Inland in 1922 as a special agent, handling specifications and customers' metallurgical problems. In 1926 Mr. Marsh organized the company's department of inspection and metallurgy and for 19 years was manager of that department.

Mr. Macomb graduated from the University of Kansas and was engaged for a number of years in survey and construction work on the Atchison, Topeka & Santa Fe, later being promoted to assistant engineer in the office of the chief engineer. He served in the armed forces during World War I and after the armistice he joined Inland as assistant to the vice-president at Chicago. Some time later Mr. Macomb was promoted to the position he held at the time of his retirement.

OBITUARY

George E. Smith, vice-president of the Midvale Company, Philadelphia, Pa., died December 12. He was 55 years of age.

Frank G. Luth, vice-president of the International Railway Car & Equipment Manufacturing Co., Inc., with headquarters at Chicago, died at his home in that city on December 13.

Abandonments

CHICAGO & NORTH WESTERN.—Division 4 of the Interstate Commerce Commission has denied this company's application for authority to abandon a portion of a branch from a point near Lyons, Iowa, to Anamosa, 68.2 miles, segments of which were damaged by high water in 1944. As recommended by Examiner Paul C. Albus,

News Department continued on next left-hand page

This Christmas sees us at peace ★ ★ ★ a permanent peace, we hope, and certainly one toward which the railroads have contributed much. To all railroad men, here and overseas, **LIMA** extends the Season's Greetings.

LIMA LOCOMOTIVE WORKS INCORPORATED

LIMA LOCOMOTIVE WORKS, INCORPORATED, LIMA, OHIO

whose proposed report was summarized in *Railway Age* of August 4, page 235, denial is without prejudice to a renewal of the application after the expiration of a year. The division expressed the view that the expenditure necessary to rehabilitate the line for continued operation would not be improvident, in the light of the possibility of increased traffic and the evidence urging present need for rail service in the territory.

BUFFALO & SUSQUEHANNA.—Division 4 of the Interstate Commerce Commission, on petition of the Railway Labor Executives' Association, has extended for an additional two-year period its reservation of jurisdiction with respect to the protection of employees who may be affected by this road's line abandonment as authorized in the Finance Docket No. 14338 proceedings.

ST. LOUIS SOUTHWESTERN.—Division 4 of the Interstate Commerce Commission has authorized this road to abandon a portion of a branch from Trumann, Ark., to McDonald, 31.12 miles. An agreement has been made for the sale of the line to the Trumann Southern Railroad, a new company, for $40,000 cash, and its operation in intrastate commerce is expected to be continued to serve local timber and agricultural interests. Approval of the application was given subject to the conditions for the protection of any employees adversely affected that were imposed in the Burlington case, 257 I. C. C. 700.

Financial

ALEXANDER.—*Operation.*—The Alexander Railroad, a new company, has applied to the Interstate Commerce Commission for authority to operate a line from Statesville, N. C., to Taylorsville, 18.5 miles, which formerly was operated by the Southern. Its abandonment by that company has been authorized by the commission.

ATLANTIC COAST LINE.—*Acquisition.*—Division 4 of the Interstate Commerce Commission has authorized the Atlantic Coast Line Railroad to purchase, and the Atlantic Coast Line Company to acquire control of, the properties of the Atlanta, Birmingham & Coast, which the railroad company controls through ownership of its common stock. Acquisition will require the purchase of the Birmingham's 5 per cent preferred stock by the railroad company at 103, the estimated cash requirement being $2,574,381, and thereafter the subsidiary will be liquidated. The Coast Line Company's acquisition of control will result from its control of 26 per cent of the stock of the railroad company. Approval of the transaction by the division was made upon condition that any employees represented by the Railway Labor Executives Association who may be adversely affected will be protected under the so-called Washington Agreement, and jurisdiction was reserved for the protection of any employees not so represented.

ALABAMA, TENNESSEE & NORTHERN.—*Reorganization Expenses.*—Division 4 of the Interstate Commerce Commission has approved maximum limits of final allowances for compensation and expenses in connection with this road's reorganization proceedings for the period from May 30, 1942, to their termination. The principal claim approved was $13,500 for Armbrecht, Inge, Twitty & Jackson, counsel for the reorganization committee.

BEAUFORT & MOREHEAD.—*Promissory Notes.*—Division 4 of the Interstate Commerce Commission has authorized this road to issue $15,000 of 6 per cent serial promissory notes in connection with certain improvements.

CHESAPEAKE & OHIO.—*Extension Opposed.*—On petition of the Clinchfield and its proprietary companies and of the North Carolina Utilities Commission, the Interstate Commerce Commission has postponed the effective date of the certificate of Division 4 authorizing construction by the Chesapeake & Ohio of a 14.6-mile line from Jenkins, Ky., to a newly developed coal field on Meade Fork in Virginia. (Previous item in *Railway Age* of September 15, page 461.) Reconsideration will follow oral argument before the commission at a time to be set. The Clinchfield also has been authorized by Division 4 to build a line into another part of the same coal mining area, but a request for authority to follow another route has been filed subsequently, as noted in *Railway Age* of December 1, page 917.

CHICAGO, BURLINGTON & QUINCY.—*Awards Mortgage Bonds.*—The Burlington has awarded its $49,765,000 issue of new first and refunding mortgage bonds due 1970 to Halsey, Stuart & Co. and associates on a bid of 100.13999 for a 2⅞ per cent coupon. The bonds were reoffered at 100.80, subject to I. C. C. approval.

DENVER & RIO GRANDE WESTERN.—*Improvement Budget Approved.*—The Denver & Rio Grande Western has won approval of the United States District court of its 1946 improvement budget involving capital expenditure of $5,084,915 and a carryover of $3,481,000 for work done to property and equipment during 1935. Henry Swan, co-trustee of the road, explained that while the railway will show a net loss for 1945, because of amortization of $17,000,000 in war-time property expenditures, he believed it will be able to conduct the proposed improvement next year without borrowing, with the possible exception of issuance of equipment trust certificates to cover new Diesel-electric locomotives.

GREAT NORTHERN.—*Nine Million Expenditure Approved.*—Following approval of its board of directors, the Great Northern will shortly spend $9,426,000 for expansion and improvements and the purchase of new equipment. The proposed purchases will include cars for five complete trains for the road's Empire Builder, two electric locomotives for use on the electrified portion of the line in the Cascade mountains, ten 1,000-hp. combination road and switching engines and 550 box, flat and gondola cars.

GULF, MOBILE & OHIO.—*Trackage Rights.*—Division 4 of the Interstate Commerce Commission has authorized this company to operate under trackage rights over the so-called Front street line of the East St. Louis Connecting (leased by the Terminal Railroad Association of St. Louis) at East St. Louis, Ill., about 0.8 mile. This operation will afford a physical connection for freight service between the G. M. & O. and the Alton, which property it is in process of acquiring.

ILLINOIS CENTRAL.—*Acquisition.*—Division 4 of the Interstate Commerce Commission has authorized this company to purchase the properties of the Mississippi Valley Company, a holding company controlled by it through ownership of stock, and thereby to acquire direct control of the Gulf & Ship Island and Yazoo & Mississippi Valley, the stock of which has been held by the holding company. The Illinois Central thus will acquire the properties of the two subsidiary operating companies, which will then be liquidated, simplifying the system capital structure and clearing the way for refinancing funded debt that matures in 1955. The transaction will not involve any cash payment or new financing. The parent company will assume leases of the Baton Rouge, Hammond & Eastern; Louisville, New Orleans & Texas in Arkansas; Alabama & Vicksburg; and Vicksburg, Shreveport & Pacific; and acquire certain operating rights over or joint use or control of properties of the Meridian Terminal; Kansas City, Shreveport & Gulf Terminal; and Vicksburg Bridge & Terminal.

MAINE CENTRAL.—*Refunding.*—Division 4 of the Interstate Commerce Commission has authorized this company to sell at 99 $1,000,000 of Portland & Ogdensburg 4½ per cent first mortgage bonds, due in 1953. The proceeds and other funds are to be applied to the redemption at 102 of $1,535,600 of Maine Central-Portland & Rumford Falls 6 per cent collateral trust bonds due in 1959. The commission's competitive bidding requirements do not apply to the new issue, since the amount involved is $1,000,000, and it was sold by negotiation to Adams & Peck. In addition to reducing system funded debt by $535,600, the transaction is expected to result in a net saving in interest charges of $324,592.

MISSOURI-KANSAS-TEXAS.—*Two Directors Elected.*—Kay Kimbel, Kimbel Milling Company, Ft. Worth, Tex., and James A. Elkins, attorney and president of the City National Bank, Houston, Tex., have been elected to the board of directors of the Missouri-Kansas-Texas. They succeed respectively Alfred L. Rose and Charles D. Hilles, both of New York, who have resigned.

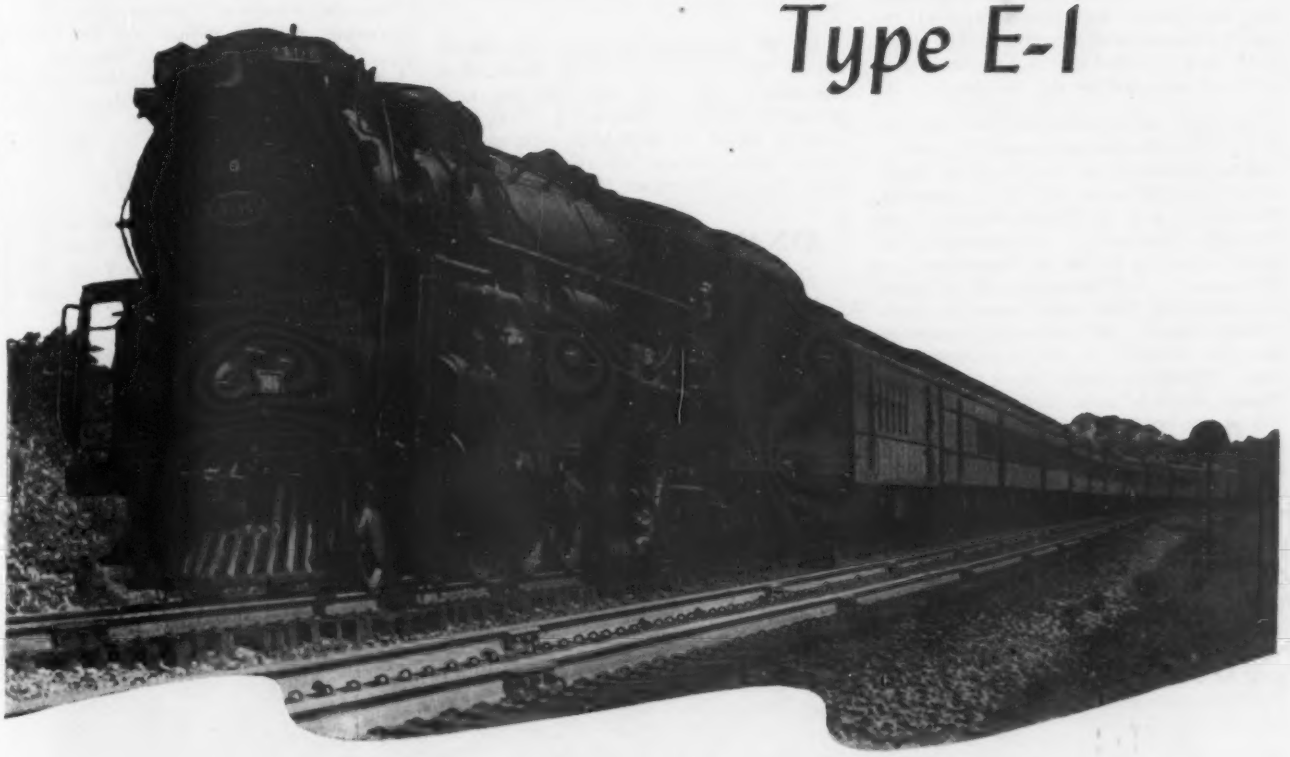
NEW YORK CENTRAL.—*Equipment Trust Certificates.*—The New York Central has awarded its $17,700,000 of 1½ per cent equipment trust certificates to Halsey, Stuart & Co. and associates on a bid of 99.517. The certificates, due in one to ten years, were reoffered at prices to yield 0.90 to 1.75 per cent. (Previous item in *Railway Age* of December 8, page 957.)

NORTHERN PACIFIC.—*New Director.*—Robert S. Macfarlane, vice-president of the Northern Pacific at Seattle, Wash., has

News Department continued on next left-hand page

The LOCOMOTIVE BOOSTER

Type E-1



has been developed to meet the trend toward higher steam pressure and higher speeds.

Its outstanding features, compared with previous types —

- ☆ **MORE RUGGED CONSTRUCTION**
- ☆ **GREATER POWER**
- ☆ **HIGHER OPERATING SPEED**
- ☆ **LOWER STEAM CONSUMPTION**

FRANKLIN RAILWAY SUPPLY COMPANY, INC.

NEW YORK • CHICAGO • MONTREAL

been elected a director of that road. In the *Railway Age* of December 8, Mr. Macfarlane was erroneously referred to as being connected with the Chicago, Milwaukee, St. Paul & Pacific.

ROCK ISLAND SOUTHERN.—*Deficit Status.*—Division 4 of the Interstate Commerce Commission has dismissed this road's claim for $131,295 for compensation under section 204 of the Transportation Act of 1920, covering losses claimed for the period of federal control of railroads, during a part of which it was a privately operated carrier. A previous claim had been dismissed on the finding that the road earned a net railway operating income during the period of private operation, and its contention that retirements and other expenses required a restatement of accounts that would result in a reported deficit for that period were not accepted by the division.

SARATOGA & SCHUYLERVILLE.—*Acquisition.*—This new company would be authorized to purchase from the Boston & Maine a line from Stillwater, N. Y., to Saratoga, 16.9 miles, and a branch thereof from Schuyler Junction to Schuylerville, 8.2 miles, according to the recommendation of Examiners J. S. Prichard and W. P. Starr in a proposed Interstate Commerce Commission report. In connection therewith, the new company would be permitted to issue $100,000 of capital stock, and S. M. Pinsley would be authorized to acquire control of the company through ownership of its stock. Purchase of the line would be accomplished by a payment to the B. & M. of $25,500; $19,500 would be used for working capital and organization expenses; while the remainder of the amount advanced by Pinsley for the stock would be used for equipment and improvements. Approval of the transaction would be granted on condition that the vendor enter into an arrangement to afford employees who may be adversely affected protection similar to that prescribed by the commission in the Burlington case.

Average Prices Stocks and Bonds

	Dec. 18	Last week	Last year
Average price of 20 representative railway stocks..	61.89	62.56	47.64
Average price of 20 representative railway bonds..	93.18	101.04	100.70

Dividends Declared

Allegheny & Western.—Semi-annually, $3.00, payable January 1 to holders of record December 20.

Canada Southern.—Semi-annually, $1.50, payable February 1 to holders of record December 26.

Canadian Pacific.—4% preferred, 2%, payable February 1 to holders of record December 31.

Hawaii Consolidated.—7% preferred, accumulative, 15¢, payable December 20 to holders of record December 10.

International of Central America. — Preferred, $1.25, payable January 15 to holders of record January 2.

Kansas City Southern.—Preferred, $1.00, payable January 15 to holders of record December 31.

Mahoning Coal.—Common, $6.25, payable December 29 to holders of record December 22; 5% preferred, semi-annually, $1.25, payable January 2 to holders of record December 22.

New London Northern.—Quarterly, $1.75, payable December 27 to holders of record December 15; extra, 50¢, payable January 2 to holders of record December 15.

Norwich & Worcester.—8% preferred, quarterly, $2.00, payable January 2 to holders of record December 15.

Pittsfield & North Adams. — Semi-annually, $2.50, payable January 5 to holders of record December 22.

Providence & Worcester.—Quarterly, $2.50, payable December 31 to holders of record December 12.

Savannah & Atlanta. — Preferred, quarterly, $1.25, payable January 1 to holders of record December 12.

Western of Alabama.—$3.00, payable December 12 to holders of record December 5.

Railway Officers

EXECUTIVE

E. B. de Villiers, freight traffic manager of the Gulf, Mobile & Ohio, at Mobile, Ala., has been promoted to assistant vice-president-traffic, with the same headquarters.

G. W. Imgrund, general superintendent of the Chicago & Illinois Midland at Springfield, Ill., has been elected vice-president effective January 1, 1946, succeeding **Fred L. Schrader,** whose election to president was reported in the *Railway Age* of December 15.

FINANCIAL, LEGAL AND ACCOUNTING

M. L. Darrah has been appointed assistant real estate, claim and tax agent of the Wheeling & Lake Erie, with headquarters at Canton, Ohio, succeeding **G. S. Shotwell,** deceased.

C. M. Roddewig, formerly general counsel of the Office of Defense Transportation, has been appointed general counsel of the Chicago & Eastern Illinois, with headquarters at Chicago.

Wayne R. Howell, whose promotion to assistant general counsel of the Missouri-Kansas-Texas, with headquarters at St. Louis, Mo., was reported in the *Railway Age* of November 24, was born at Corsicana, Tex., on November 15, 1892, and received his higher education at the University of Texas. From 1925 to 1937, he was engaged in the private practice of law

Wayne R. Howell

as junior member of the firm of Taylor & Howell at Corsicana, local attorneys for the Trinity & Brazos Valley (now the Burlington-Rock Island), and the Texas Electric Railway. On January 1, 1937, he became judge of the thirteenth judicial district of Texas and served in that capacity until July 1, 1943, when he entered the service of the Katy as assistant general attorney, with headquarters at Dallas, Tex., the position he held at the time of his recent promotion.

Captain W. K. Bush, formerly tax economist of the Chicago, Burlington & Quincy and recently honorably discharged from the Army, has returned to the Burlington and has been promoted to general tax agent, with headquarters at Chicago.

E. V. Neville, auditor of miscellaneous accounts for the Canadian Pacific at Montreal, Que., has been appointed auditor of claims there, succeeding **A. Shelburne,** whose death was reported in the December 8 issue of *Railway Age*. **W. A. Crosbie,** general auditor for the Canadian Pacific Air Lines at Montreal, has become auditor of miscellaneous accounts for the Canadian Pacific at Montreal, succeeding Mr. Neville.

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H. C. Mauney has been appointed trainmaster for the Southern at Alexandria, Va., succeeding **F. S. Worthington,** transferred to Danville, Va., succeeding **E. E. Brown. W. B. Bailes** has been named trainmaster at Strasburg, Va.

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AMERICAN ARCH COMPANY, INC.

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SECURITY CIRCULATOR DIVISION

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AMERICAN ARCH COMPANY, INC.

NEW YORK • CHICAGO

SECURITY CIRCULATOR DIVISION

New York (subsidiary of the Erie) at Jersey City, N. J., succeeding **H. R. Adams,** who has retired after 47 years' service.

C. C. Shoulty, supervisor of train and yard operations of the Chicago, Indianapolis & Louisville at Lafayette, Ind., has been promoted to assistant superintendent, Southern division, with the same headquarters. **M. E. Strother,** road foreman of engines at Lafayette, has been promoted to assistant superintendent, Northern division, with the same headquarters. **W. J. Hayes,** assistant road foreman of engines, has been promoted to trainmaster-road foreman of engines, with headquarters as before at Lafayette.

C. R. Dodson has been appointed division trainmaster of the Missouri Pacific, with headquarters at Bush, Ill., succeeding **G. W. Warmack,** who has been assigned to other duties. **J. F. Serrett** has been appointed division trainmaster at Monroe, La. **C. W. Ivey,** who has been acting as assistant general superintendent of transportation, has resumed his duties as division trainmaster, with headquarters at Little Rock, Ark. **E. W. Hargrave,** who has been serving in the armed forces, has resumed the position of assistant general superintendent of transportation, with headquarters at Houston, Tex.

TRAFFIC

A. R. Malcolm, whose retirement as traffic manager of the Union Pacific, with headquarters at Detroit, Mich., was reported in the *Railway Age* of December 8, was born at Milwaukee, Wis., on September 27, 1875, and entered railway service on May 1, 1897, as a chief clerk in the Milwaukee office of the Ann Arbor. On March 1, 1900, he went with the Chicago & Alton as contracting freight agent, with headquarters at Milwaukee, and three years later went with the Missouri Pacific as traveling freight and passenger agent, with the same headquarters. On March 1, 1908,

A. R. Malcolm

he was promoted to commercial agent, and on April 1, 1914, he was advanced to assistant general freight agent, with headquarters at Omaha, Neb. He was appointed general agent, with headquarters at San Francisco, Cal., on January 1, 1916, and on March 1, 1918, he was promoted to assistant traffic manager, with headquarters at New Orleans, La. On July 1, 1918, he resigned to become Pacific Coast manager of the J. H. W. Steele Co., San Francisco. Mr. Malcolm returned to railway service on February 15, 1920, as general agent on the Union Pacific at Detroit, Mich., serving in this capacity until November, 1938, when he was promoted to assistant traffic manager, with the same headquarters. On February 16, 1940, he was further advanced to traffic manager at Detroit, the position he held at the time of his retirement.

M. H. Fowler, whose promotion to traffic manager of the Union Pacific, with headquarters at Detroit, Mich., was reported in the *Railway Age* of December 8, was born at Parsons, Kan., on April 12, 1904. He entered railroad service on July 20, 1922, as a clerk with the Union Pacific at Riverside, Cal., and served in various minor positions until October, 1927, when he was promoted to traveling freight and passenger agent. From January, 1934, to July, 1938, he served as general agent

M. H. Fowler

at Glendale, Cal. On the latter date Mr. Fowler was promoted to assistant general passenger agent at Los Angeles, Cal. On March 16, 1943, he was further advanced to general passenger agent, with the same headquarters, the position he held at the time of his recent promotion.

F. J. Herhusky has been appointed general agent of the Chicago & North Western at Washington, D. C.

O. H. Romadka has been appointed general agent, passenger department, of the Chicago & North Western, with headquarters at Rochester, Minn.

Thomas Hooks, who was in charge of freight traffic operations at the Canadian Army ordnance depot at Longue Pointe, Montreal, Que., has been appointed division freight agent for the Canadian Pacific at Calgary, Alta.

C. F. Farmer, whose promotion to general passenger agent of the Union Pacific, with headquarters at Los Angeles, Cal., was reported in the *Railway Age* of December 8, was born at Garrett, Ind., on April 15, 1887. He entered railway service in May, 1905, with the Great Northern, subsequently holding various minor positions on this railroad, and on the Minneapolis & St. Louis, the White Pass & Yukon, and the Northern Pacific. In November, 1920, he entered the service of the Union Pacific as assistant agent at Pasadena, Cal., and became general agent in 1927. In February, 1940, Mr. Farmer was promoted

C. F. Farmer

to general agent, passenger department, at Los Angeles, and on May 1, 1944, he was further advanced to assistant general passenger agent, with the same headquarters, the position he held at the time of his recent promotion.

H. A. Peterson, general agent of the Northern Pacific at Cincinnati, Ohio, has been promoted to assistant freight traffic manager, with headquarters at St. Paul, Minn. **K. W. Wilson,** commercial agent at Chicago, has been promoted to general agent, with headquarters at Cincinnati, succeeding Mr. Peterson. **C. M. Gautwick,** commercial agent at Chicago, has been advanced to assistant general freight agent, with the same headquarters.

Paul F. Echelle, whose promotion to traffic manager of the Union Pacific, with headquarters at Denver, Colo., was reported in the *Railway Age* of December 8,

Paul F. Echelle

was born at Machens, Mo., on June 22, 1892. After holding various positions with the Gulf, Mobile & Ohio, the Illinois Central and Missouri Pacific, he entered the service of the Union Pacific in October, 1919, as a secretary in the office of the vice-president at Omaha, Neb., and held

Courtesy of the New York Central System

SEASONS GREETINGS

THE
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various clerical positions until May, 1939, when he was promoted to general agent in the freight department at Omaha. In March, 1940, Mr. Echelle became assistant to the vice-president, and on July 16, 1941, he was further advanced to general freight agent, the position he held at the time of his recent promotion.

J. V. Sessums, commercial agent of the Chicago, Rock Island & Pacific at Little Rock, Ark., has been promoted to division freight agent, with the same headquarters, succeeding **J. N. Bethea,** who has been advanced to assistant to the assistant freight traffic manager, also at Little Rock. **C. D. Mason,** general agent at Phoenix, Ariz., has been transferred to Los Angeles, Cal., succeeding **M. G. Watson,** who in turn has been transferred to Phoenix.

Frank L. Coulter, whose promotion to western traffic manager of the St. Louis-San Francisco, with headquarters at Los Angeles, Cal., was reported in the *Railway Age* of November 24, was born at Millbury, Mass., on June 4, 1899, and is a

Frank L. Coulter

graduate of Dartmouth College. He entered railway service in 1932 as a traffic representative of the Frisco, with headquarters at New York, and two years later he was advanced to general agent at Boston, Mass. In 1937 Mr. Coulter was promoted to assistant to the freight traffic manager, with headquarters at St. Louis, Mo., and in 1938 he was further advanced to traffic manager at Los Angeles, the position he held at the time of his new appointment.

W. H. Olin, whose retirement as traffic manager of the Union Pacific, with headquarters at San Francisco, Cal., was reported in the *Railway Age* of December 8, was born at Stevens Point, Wis., on July 18, 1873, and completed his higher education at the University of Wisconsin. He entered railway service with the Wisconsin Central (now part of the Minneapolis, St. Paul & Sault Ste. Marie) as a clerk in the office of the superintendent of bridges and buildings, and held minor positions in various departments of a number of railroads until September, 1903, when he became general agent of the Chicago Great Western at Seattle, Wash., which position he held until April, 1918. During the period of federal control, Mr. Olin was out of railroad service, but on March 1, 1920, he became assistant general freight and passenger agent of the Union Pacific at Seattle. In April, 1932, he was advanced to assistant traffic manager at San Francisco and served in this capacity until February 15, 1940. On the following day he was promoted to traffic manager, with the same headquarters, the position he held at the time of his retirement.

Walter G. Degelow, whose promotion to general freight agent of the St. Louis Southwestern, with headquarters at St. Louis, Mo., was reported in the *Railway Age* of December 15, was born at Atchison, Kan., on September 26, 1890. He entered railroad service in November, 1907, with the Missouri Pacific at Atchison, and served in various clerical capacities until June, 1917, when he entered the service of the St. Louis Southwestern at St. Louis. Until December, 1931, he served in various clerical positions. In January, 1932, he was promoted to assistant general freight agent and served in that capacity until August, 1944, when he became general merchandise agent. From March, 1945, to November, 1945, Mr. Degelow was furloughed for government service. On December 1, he returned to the St. Louis Southwestern as general freight agent.

M. A. Light, whose promotion to general freight agent of the Union Pacific, with headquarters at Denver, Colo., was reported in the *Railway Age* of December 8, was born at Light, Mo., on August 22, 1900. He entered railway service with the Kansas City Southern in September, 1922, and held various minor positions on that road, on the Chicago & North Western and on the Chicago, Burlington & Quincy, until July, 1925, when he began his service with the Union Pacific as a clerk on the Wyoming division. From 1925 to 1934, he served as tour escort, ticket clerk and traveling agent. On July 27, 1934, he was promoted to passenger agent at New York, serving in this capacity until November, 1936, at which time he was further advanced to city passenger agent, with headquarters at St. Louis, Mo. In February, 1939, Mr. Light became traveling passenger agent at Omaha, Neb., and in March, 1941, he went to Detroit, Mich., as traveling freight and passenger agent. On June 16, 1943, he was promoted to traveling freight agent at Kansas City, Mo., and almost a year later, on May 1, 1944, he became traveling freight and passenger agent at Tulsa, Okla. On July 1, 1944, he was advanced to general agent at Minneapolis, Minn., the position he held at the time of his recent promotion.

MECHANICAL

R. C. Trinker has been appointed general inspector for the New York Central at New York.

S. Carther has been appointed mechanical and rule instructor for the Canadian National at Toronto, Ont., succeeding **C. Sharp,** who has retired.

C. B. Stemple has been appointed general car foreman of the Chicago & North Western at Proviso, Ill., replacing **W. H. Hartnett,** who has been transferred to Milwaukee, Wis., where he succeeds **C. E. Dyer,** who in turn has been promoted to terminal supervisor of car maintenance at Proviso.

J. B. Harmison, recently released from service as a captain in the United States Army, has been appointed to his former position as division car foreman for the Erie at Penhorn, N. J.

L. S. McGregor, recently returned from five years' overseas service with the Royal Canadian Electrical Mechanical Engineers, has been appointed mechanical inspector for the Canadian National at Montreal, Que.

W. D. Quarles, Diesel master mechanic for the Atlantic Coast Line at Wilmington, N. C., has been appointed superintendent Diesel performance there. **H. D. Parker,** assistant general mechanical instructor at Rocky Mount, N. C., has been named general Diesel supervisor at Wilmington, N. C. **E. P. Fairchild** has become general boiler inspector and **R. L. Ponton** general mechanical inspector, both at Wilmington.

Adam McGregor, chief draftsman for the Canadian National at Montreal, Que., has been appointed mechanical engineer, car department, succeeding **E. W. Pearson,** who has been assigned to other duties.

ENGINEERING & SIGNALING

P. P. Wagner has been appointed assistant chief engineer of the Missouri Pacific, with headquarters at St. Louis, Mo., which position has been vacant since May 22, 1945.

R. B. Jones, engineer of track of the Canadian Pacific at Montreal, Que., has been promoted to assistant chief engineer of the system, a new position, with the same headquarters. **W. G. Dyer,** division engineer at Penticton, B. C., has been promoted to engineer of track, with headquarters at Montreal, succeeding Mr. Jones.

OBITUARY

Thomas L. Burton, airbrake engineer for the New York Central at New York, died on December 9.

J. F. Lord, assistant general manager of the Chicago & Eastern Illinois at Chicago, died at his home in that city on December 14.

John B. Baskerville, who retired as general claim agent of the Norfolk & Western in April, 1940, died in Roanoke, Va., on December 11.

F. L. C. Bond, whose retirement as vice-president and general manager of the Central region of the Canadian National, with headquarters at Toronto, Ont., was reported in the *Railway Age* of February 26, 1944, died at Montreal, Que., on December 9.

James H. Brinkerhoff, who retired in 1940 as assistant freight traffic manager of the Northern Pacific, died at his home in Chicago on December 16, at the age of 75. During World War I he was terminal manager of all the railroads in Chicago under federal control.

Greetings

To all our friends:

Christmas Joy;

Happiness and Abundance

In the New Year

HUNT-SPILLER MFG. CORPORATION

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Freight Operating Statistics of Large Steam Railways — Selected

Region, road, and year		Miles of road operated	Train-miles	Locomotive-miles: Principal and helper	Locomotive-miles: Light	Car-miles: Loaded (*thousands*)	Car-miles: Per cent loaded	Ton-miles (*thousands*): Gross excl. locos. & tenders	Ton-miles (*thousands*): Net-rev. and non-rev.	Road locos. on line: Serviceable: Unstored	Road locos. on line: Serviceable: Stored	Road locos. on line: B. O.	Road locos. on line: Per cent B. O.
New England Region:													
Boston & Albany	1945	362	144,471	159,759	22,646	3,406	67.3	212,030	89,833	61	5	25	27.5
	1944	362	172,464	203,185	38,838	4,258	58.6	293,347	117,433	78	..	16	17.0
Boston & Maine	1945	1,777	307,330	319,462	14,044	11,546	71.9	716,835	325,275	112	4	29	20.0
	1944	1,807	373,608	426,126	40,791	13,848	67.9	895,590	403,474	154	..	23	13.0
N. Y., New H. & Hartf.†	1945	1,815	373,963	517,953	46,334	14,910	73.5	858,370	381,045	206	31	36	15.1
	1944	1,815	441,691	539,443	56,078	16,592	68.6	1,024,564	453,437	226	10	28	16.3
Great Lakes Region:													
Delaware & Hudson	1945	846	271,780	329,774	35,625	11,683	68.1	833,321	445,289	126	71	26	11.7
	1944	846	312,224	383,304	36,846	13,389	68.1	949,910	505,174	119	54	45	20.6
Del., Lack. & Western	1945	971	314,114	352,187	44,717	13,502	71.7	872,028	416,001	114	36	52	25.7
	1944	971	351,046	413,631	65,981	15,685	70.8	1,020,636	488,125	137	31	29	14.7
Erie	1945	2,243	744,059	791,025	63,463	37,126	69.2	2,348,951	997,315	271	46	71	18.3
	1944	2,244	902,094	970,160	82,095	43,286	68.2	2,791,077	1,217,245	319	18	62	15.5
Grand Trunk Western	1945	1,026	256,126	263,036	1,869	7,829	68.8	513,473	237,176	60	2	13	17.3
	1944	1,026	248,798	255,682	2,034	7,969	69.5	505,650	230,090	67	2	11	13.8
Lehigh Valley	1945	1,242	333,840	370,628	50,223	14,140	66.8	997,476	501,308	128	29	12	7.1
	1944	1,247	474,054	528,892	84,522	20,469	60.8	1,473,100	695,370	156	..	11	6.6
New York Central	1945	10,331	3,037,251	3,280,406	231,684	111,169	63.3	7,690,023	3,549,576	973	75	343	24.7
	1944	10,325	3,586,438	3,863,171	236,464	139,210	64.3	9,626,835	4,519,485	1,124	36	226	16.3
New York, Chi. & St. L.	1945	1,656	590,187	600,865	7,852	23,657	70.4	1,481,496	662,362	142	28	23	11.9
	1944	1,657	694,725	706,177	8,786	28,100	70.5	1,766,565	806,759	169	20	22	10.4
Pere Marquette	1945	1,915	329,405	338,985	7,455	10,753	68.6	718,209	340,949	128	11	23	14.2
	1944	1,915	410,727	423,243	10,639	14,146	65.7	956,987	450,820	145	2	19	11.4
Pitts. & Lake Erie	1945	229	85,330	86,182	240	3,434	65.9	291,670	173,261	31	2	13	28.3
	1944	229	89,301	94,638	34	3,966	68.3	331,284	199,477	32	..	13	28.9
Wabash	1945	2,381	603,919	625,756	15,708	21,370	73.9	1,339,968	621,488	158	13	40	19.0
	1944	2,381	726,379	752,084	17,621	26,326	72.6	1,665,651	778,948	173	3	42	19.3
Central Eastern Region:													
Baltimore & Ohio	1945	6,095	2,095,395	2,612,995	287,330	73,375	63.3	5,428,168	2,723,790	886	48	238	20.3
	1944	6,113	2,372,466	2,952,056	307,853	84,271	65.3	6,084,001	3,060,446	913	3	234	20.3
Central of New Jersey†	1945	654	179,842	207,458	42,519	6,524	65.9	482,115	250,151	99	18	33	22.0
	1944	655	224,385	265,779	54,151	8,478	62.8	623,127	311,234	116	11	27	17.5
Chicago & Eastern Ill.	1945	912	192,512	194,507	4,853	4,985	66.1	342,552	166,491	60	10	7	9.1
	1944	912	258,796	262,803	6,562	7,982	62.6	547,942	252,357	77	..	5	6.1
Elgin, Joliet & Eastern	1945	392	99,481	103,677	3,405	3,012	68.7	227,616	102,161	42	8	25	33.3
	1944	392	125,934	129,646	3,769	3,572	66.4	280,291	159,882	61	..	15	19.7
Long Island	1945	372	44,887	46,474	15,210	619	54.8	42,405	15,370	48	..	7	12.7
	1944	372	35,359	36,784	16,104	436	56.8	30,640	12,329	45	..	5	10.0
Pennsylvania System	1945	10,024	3,812,504	4,490,085	634,599	152,525	65.2	10,834,232	5,383,962	1,935	97	191	8.6
	1944	9,872	4,443,745	5,179,220	678,289	174,626	64.9	12,429,360	6,160,493	2,014	1	185	8.4
Reading	1945	1,365	506,802	565,209	68,395	17,108	65.0	1,321,792	729,304	248	25	61	18.3
	1944	1,409	586,704	651,112	80,388	19,105	66.1	1,434,930	784,577	269	13	46	14.0
Pocahontas Region:													
Chesapeake & Ohio	1945	3,040	1,044,297	1,118,038	52,239	48,943	57.6	4,222,957	2,448,821	454	5	46	9.1
	1944	3,032	1,084,554	1,173,594	55,967	51,830	58.2	4,457,019	2,589,530	427	19	67	13.1
Norfolk & Western	1945	2,139	679,395	726,633	53,473	32,041	59.6	2,745,811	1,506,100	234	92	23	6.6
	1944	2,132	761,745	807,029	52,227	35,510	59.5	3,069,281	1,663,048	291	25	18	5.4
Southern Region:													
Atlantic Coast Line	1945	4,926	748,521	758,147	10,705	19,532	67.8	1,267,692	587,063	370	6	24	6.0
	1944	4,952	887,684	897,869	12,285	24,265	67.8	1,580,453	732,242	364	15	28	6.9
Central of Georgia†	1945	1,783	292,531	298,167	5,275	7,006	69.8	461,101	214,961	94	..	8	7.8
	1944	1,783	318,527	324,639	5,436	7,682	68.9	502,510	232,490	93	..	15	13.9
Gulf, Mobile & Ohio	1945	1,931	301,997	383,480	5,361	10,968	75.8	693,079	338,691	99	1	14	12.3
	1944	1,941	271,123	342,750	1,937	10,002	76.4	627,924	312,375	102	5	11	9.3
Illinois Central (incl. Yazoo & Miss. Vy.)	1945	6,346	1,317,582	1,332,724	46,394	48,780	65.1	3,363,474	1,596,890	592	41	56	8.1
	1944	6,347	1,657,759	1,668,986	31,408	64,808	63.1	4,513,237	2,105,212	643	..	59	8.4
Louisville & Nashville	1945	4,745	1,410,964	1,528,087	40,479	37,276	63.7	2,677,429	1,374,974	390	35	56	11.6
	1944	4,734	1,530,118	1,651,103	42,269	40,342	65.1	2,864,424	1,480,230	394	17	71	14.7
Seaboard Air Line*	1945	4,157	688,736	721,935	16,738	20,155	71.9	1,266,104	585,598	260	20	53	15.9
	1944	4,161	810,757	882,622	18,318	23,859	69.3	1,558,260	728,170	315	1	27	7.9
Southern	1945	6,471	1,872,627	1,904,876	32,731	43,280	70.1	2,748,350	1,278,034	604	14	105	14.5
	1944	6,471	2,050,833	2,096,892	39,976	47,041	69.6	2,982,741	1,373,041	610	..	78	11.3
Northwestern Region:													
Chi. & North Western	1945	8,062	1,116,728	1,165,621	30,784	36,136	66.1	2,444,575	1,138,284	389	30	109	20.6
	1944	8,074	1,117,850	1,175,262	25,567	37,469	67.5	2,522,576	1,161,539	373	13	102	20.9
Chicago Great Western	1945	1,445	260,933	264,896	11,801	8,524	74.2	538,533	245,780	71	..	10	12.3
	1944	1,445	262,413	269,602	6,444	8,617	73.9	544,972	249,063	74	..	8	9.8
Chi., Milw., St. P. & Pac.†	1945	10,723	1,519,395	1,617,422	94,429	52,538	62.5	3,708,705	1,704,657	508	22	80	13.1
	1944	10,715	1,557,019	1,651,802	87,643	55,519	68.0	3,740,601	1,796,952	533	31	64	10.2
Chi., St. P., Minneap. & Om.	1945	1,606	206,620	221,011	11,918	5,623	72.2	376,249	179,636	89	4	31	25.0
	1944	1,606	214,067	233,915	12,595	5,821	71.5	386,975	179,679	94	26	11	8.4
Duluth, Missabe & I. R.	1945	546	159,091	160,065	1,772	8,774	51.4	811,545	498,448	46	..	2	4.2
	1944	547	162,594	163,269	1,214	8,898	50.9	830,532	508,832	54	..	..	..
Great Northern	1945	8,275	1,101,406	1,100,749	41,053	45,616	64.2	3,365,365	1,676,611	393	47	48	9.8
	1944	8,276	1,365,144	1,368,874	56,977	55,197	64.9	4,065,879	2,028,211	433	10	39	8.1
Min., St. P. & S. St. M.	1945	4,259	504,467	515,072	8,909	14,270	60.9	1,051,573	498,474	130	1	14	9.7
	1944	4,259	466,448	478,411	7,480	13,311	64.0	954,269	463,316	129	2	6	4.4
Northern Pacific	1945	6,577	983,802	1,050,758	75,065	39,939	71.3	2,689,395	1,331,754	383	9	57	12.7
	1944	6,571	1,022,208	1,094,969	83,616	44,756	71.8	3,001,629	1,486,075	375	12	62	13.8
Central Western Region:													
Alton†	1945	915	232,388	241,950	352	5,914	69.4	391,150	171,443	69	5	8	9.8
	1944	915	266,506	283,943	782	7,482	72.3	487,099	231,921	74	1	4	5.1
Atch., Top. & S. Fe (incl. G. C. & S. F. & P. & S. F.)	1945	13,113	2,886,419	3,043,272	139,741	104,870	69.7	6,738,146	2,777,528	868	57	106	10.3
	1944	13,093	3,421,393	3,657,588	204,506	128,806	67.2	8,406,371	3,429,483	856	2	122	12.4
Chi., Bur. & Quincy	1945	8,768	1,366,205	1,427,406	59,797	52,087	63.8	3,618,055	1,646,698	436	..	81	15.7
	1944	8,791	1,521,470	1,606,351	53,146	59,746	67.1	3,981,284	1,835,648	473	..	72	13.2
Chi., Rock I. & Pac.†	1945	7,716	1,310,052	1,347,415	17,499	39,275	68.2	2,578,857	1,177,685	356	..	99	21.8
	1944	7,718	1,331,150	1,389,914	10,858	42,038	70.5	2,678,520	1,221,010	397	..	73	15.5
Denver & R. G. Wn.†	1945	2,386	462,934	513,733	71,356	16,012	77.1	982,035	453,709	163	4	50	23.0
	1944	2,388	528,630	595,975	91,184	19,113	77.0	1,158,564	537,739	184	2	40	17.7
Southern Pacific—Pac. Lines	1945	8,178	2,073,855	2,390,187	410,677	89,889	71.2	5,715,940	2,400,170	771	..	170	18.1
	1944	8,193	2,300,475	2,642,311	422,170	99,063	69.2	6,435,820	2,725,225	858	..	123	12.5
Union Pacific	1945	9,778	3,104,109	3,275,206	272,374	118,657	70.9	7,424,050	3,306,222	820	37	86	9.1
	1944	9,782	3,201,799	3,409,751	275,777	131,543	71.8	8,153,127	3,533,062	840	14	63	6.9
Southwestern Region:													
Mo.-Kans.-Texas Lines	1945	3,241	495,380	507,550	10,049	13,253	65.1	878,280	387,876	140	11	15	9.0
	1944	3,241	651,438	670,010	11,108	18,311	63.9	1,221,823	543,316	156	..	17	9.8
Missouri Pacific†	1945	7,056	1,411,795	1,474,330	38,246	49,134	67.4	3,288,724	1,504,670	432	1	84	16.2
	1944	7,071	1,658,390	1,709,874	40,711	57,965	66.2	3,965,290	1,810,956	467	1	70	13.0
Texas & Pacific	1945	1,871	356,691	356,844	6,207	11,648	65.7	776,880	324,211	133	24	9	5.4
	1944	1,882	447,521	447,521	7,515	15,297	64.1	1,023,235	434,949	135	14	9	5.7
St. Louis-San Francisco†	1945	4,615	1,046,306	1,104,811	14,400	25,024	65.4	1,710,517	774,845	318	..	32	9.1
	1944	4,616	1,044,259	1,135,333	26,026	26,526	68.0	1,739,179	795,575	318	..	30	8.6
St. Louis-San Fran. & Texas	1945	161	31,563	33,850	....	500	67.4	34,191	14,579	6	..	1	14.3
	1944	159	32,494	33,890	8	506	67.6	32,525	13,597	8	..	1	11.1
St. Louis Southw. Lines†	1945	1,600	315,550	319,005	4,289	11,280	73.1	677,143	302,692	96	16	30	21.1
	1944	1,600	455,152	463,047	6,306	17,109	70.9	1,065,214	496,259	112	3	25	17.9
Texas & New Orleans	1945	4,321	843,576	844,883	18,211	23,530	70.4	1,515,182	674,048	234	6	41	14.6
	1944	4,333	1,146,558	1,149,190	47,569	29,913	64.6	1,994,787	868,293	268	..	16	5.6

* Report of receivers.
† Report of trustee or trustees.

Items for the Month of September 1945 Compared with September 1944

Region, road, and year		Freight cars on line: Home	Foreign	Total	Per Cent B. O.	G.t.m. per train-hr. excl.locos. and tenders	G.t.m. per train-mi. excl.locos. and tenders	Net ton-mi. per train-mile	Net ton-mi. per l'd. car-mile	Net ton-mi. per car-day	Car miles per car-day	Net daily ton-mi. per road-mi.	Coal lb. per 1000 g.t.m. inc. loco.	Mi. per loco. per day
New England Region:														
Boston & Albany	1945	302	5,147	5,449	0.4	23,331	1,481	627	26.4	555	31.2	8,272	191	74.2
	1944	338	6,335	6,673	0.4	25,378	1,709	684	27.6	599	37.1	10,813	178	94.4
Boston & Maine	1945	1,940	10,788	12,728	1.9	35,872	2,339	1,061	28.2	825	40.7	6,102	101	81.7
	1944	2,209	10,706	12,915	3.2	36,856	2,408	1,085	29.1	1,041	52.6	7,443	93	91.5
N. Y., New H. & Hartf.†	1945	2,227	18,716	20,943	4.5	32,268	2,302	1,022	25.6	621	33.0	6,998	85	77.0
	1944	3,555	20,463	24,018	4.5	32,945	2,358	1,044	27.3	626	33.4	8,328	96	79.9
Great Lakes Region:														
Delaware & Hudson	1945	3,227	6,248	9,475	4.9	53,573	3,085	1,648	38.1	1,507	58.1	17,545	100	58.0
	1944	3,396	6,368	9,764	2.5	51,687	3,058	1,626	37.7	1,729	67.3	19,904	99	67.2
Del., Lack. & Western	1945	5,323	10,903	16,226	3.9	42,509	2,806	1,339	30.8	860	38.9	14,281	109	71.7
	1944	5,474	13,141	18,615	2.8	42,227	2,936	1,404	31.1	878	39.8	16,757	113	88.2
Erie	1945	9,583	26,990	36,573	4.3	52,274	3,184	1,352	26.9	922	49.6	14,821	92	79.2
	1944	7,051	31,058	38,109	2.9	50,549	3,108	1,356	28.1	1,045	54.5	18,081	89	95.0
Grand Trunk Western	1945	3,231	7,199	10,430	7.2	41,530	2,015	931	30.3	759	36.4	7,706	85	124.4
	1944	4,486	5,629	10,115	4.0	42,296	2,046	931	28.9	812	40.5	7,475	79	115.4
Lehigh Valley	1945	6,115	16,135	22,250	4.9	50,881	3,087	1,551	35.5	711	30.0	13,454	98	87.9
	1944	6,323	22,539	28,862	1.6	50,893	3,214	1,517	34.0	823	39.9	18,588	102	128.9
New York Central	1945	48,339	90,916	139,255	4.6	40,491	2,572	1,187	31.9	853	42.3	11,453	105	94.4
	1944	45,183	104,876	150,059	2.7	43,062	2,715	1,275	32.5	1,019	48.8	14,591	99	109.8
New York, Chi. & St. L.	1945	2,688	12,624	15,312	3.3	48,385	2,519	1,126	28.0	1,451	73.6	13,333	87	109.9
	1944	2,531	13,379	15,910	2.0	48,258	2,555	1,167	28.7	1,838	90.8	16,229	85	123.2
Pere Marquette	1945	3,566	8,295	11,861	5.7	39,067	2,195	1,042	31.7	918	42.2	5,935	90	77.6
	1944	2,328	9,936	12,264	2.5	40,388	2,352	1,108	31.9	1,226	58.5	7,847	86	92.4
Pitts. & Lake Erie	1945	3,908	9,416	13,324	4.4	51,036	3,427	2,036	50.5	440	13.2	25,220	76	65.8
	1944	3,720	9,023	12,743	4.2	51,124	3,714	2,236	50.3	518	15.1	29,036	92	77.5
Wabash	1945	6,784	12,346	19,130	5.0	43,817	2,238	1,038	29.1	1,104	51.4	8,701	110	105.9
	1944	6,090	12,735	18,825	4.0	44,895	2,314	1,082	29.6	1,385	64.5	10,905	104	121.8
Central Eastern Region:														
Baltimore & Ohio	1945	41,885	56,906	98,791	5.1	31,763	2,653	1,331	37.1	954	40.6	14,896	142	85.2
	1944	39,078	60,973	100,051	3.3	31,085	2,622	1,319	36.3	1,035	43.6	16,688	140	97.6
Central of New Jersey†	1945	3,840	13,568	17,408	7.2	31,939	2,783	1,444	38.3	477	18.9	12,750	115	70.5
	1944	6,815	13,908	20,723	3.3	33,690	2,788	1,393	36.7	490	21.3	15,839	115	92.1
Chicago & Eastern Ill.	1945	2,268	3,891	6,159	6.6	32,086	1,821	885	33.4	893	40.5	6,085	122	88.4
	1944	2,067	4,412	6,479	4.8	37,389	2,181	1,005	31.6	1,255	63.4	9,224	109	111.6
Elgin, Joliet & Eastern	1945	8,242	5,864	14,106	3.1	19,245	2,397	1,076	33.9	243	10.5	8,687	127	67.5
	1944	9,227	6,456	15,683	2.5	18,598	2,365	1,349	44.8	345	11.6	13,595	128	83.1
Long Island	1945	20	5,627	5,647	.3	7,960	966	350	24.8	95	7.0	1,377	278	55.2
	1944	43	5,548	5,591	.4	6,622	893	359	28.3	71	4.4	1,105	275	51.5
Pennsylvania System	1945	117,683	122,911	240,594	5.9	39,369	2,932	1,457	35.3	754	32.8	17,904	117	83.4
	1944	119,919	117,072	236,991	3.7	39,369	2,884	1,429	35.3	857	37.4	20,801	114	96.3
Reading	1945	11,623	22,719	34,342	2.7	34,083	2,611	1,441	42.6	707	25.5	17,810	101	72.8
	1944	12,120	26,949	39,069	1.8	31,367	2,447	1,338	41.1	670	24.7	18,561	112	86.3
Pocahontas Region:														
Chesapeake & Ohio	1945	37,307	18,346	55,653	2.2	59,582	4,096	2,375	50.0	1,468	51.0	26,851	73	82.6
	1944	36,658	18,820	55,478	1.7	58,021	4,171	2,423	50.0	1,602	55.1	28,469	74	87.2
Norfolk & Western	1945	26,492	6,738	33,230	2.8	65,514	4,100	2,249	47.0	1,457	52.0	23,470	82	86.0
	1944	31,115	7,908	39,023	1.7	63,469	4,078	2,210	46.8	1,410	50.6	26,001	85	93.3
Southern Region:														
Atlantic Coast Line	1945	8,267	18,913	27,180	1.3	26,986	1,704	789	30.1	774	37.9	3,973	119	67.4
	1944	7,380	17,594	24,974	1.8	30,022	1,794	831	30.2	1,018	49.8	4,929	105	78.5
Central of Georgia†	1945	1,720	6,855	8,575	1.6	29,514	1,579	736	30.7	843	39.3	4,019	134	106.1
	1944	1,775	6,374	8,149	1.9	29,519	1,589	735	30.3	903	43.3	4,346	125	109.0
Gulf, Mobile & Ohio	1945	2,231	7,730	9,961	.5	40,139	2,303	1,125	30.9	1,119	47.8	5,847	110	119.5
	1944	1,940	6,881	8,821	.7	39,091	2,322	1,155	31.2	1,176	49.3	5,365	112	102.0
Illinois Central (incl. Yazoo & Miss. Vy.)	1945	19,633	27,413	47,046	1.1	42,584	2,630	1,249	32.7	1,077	50.6	8,388	110	70.4
	1944	17,991	36,562	54,553	1.0	43,880	2,785	1,299	32.5	1,267	61.8	11,056	103	84.2
Louisville & Nashville	1945	29,543	15,529	45,072	5.7	30,001	1,898	974	36.9	1,015	43.2	9,659	130	114.3
	1944	27,921	15,174	43,095	3.4	29,608	1,872	967	36.7	1,137	47.6	10,423	121	121.8
Seaboard Air Line*	1945	6,113	15,897	22,010	1.7	31,796	1,868	864	29.1	904	43.3	4,696	122	81.9
	1944	6,052	16,608	22,661	2.0	33,091	1,955	914	30.5	1,072	50.7	5,833	118	96.0
Southern	1945	15,292	32,993	48,285	4.0	25,421	1,490	693	29.5	903	43.6	6,583	141	94.4
	1944	16,133	35,394	51,527	2.1	24,613	1,477	680	29.2	897	44.2	7,073	143	108.3
Northwestern Region:														
Chi. & North Western	1945	22,694	37,419	60,113	3.5	33,206	2,296	1,069	31.5	659	31.6	4,706	118	82.3
	1944	21,302	33,846	55,148	2.9	35,259	2,341	1,078	31.0	693	33.1	4,795	113	88.9
Chicago Great Western	1945	1,172	4,750	5,922	4.1	36,464	2,079	949	28.8	1,429	66.8	5,670	120	119.0
	1944	941	4,711	5,652	2.0	36,329	2,083	952	28.9	1,458	68.3	5,745	120	118.1
Chi., Milw., St. P. & Pac.†	1945	23,578	37,253	60,831	1.9	37,533	2,464	1,133	32.4	943	46.5	5,299	111	101.4
	1944	23,238	32,269	55,507	1.8	37,828	2,422	1,164	32.4	1,064	48.3	5,590	110	101.0
Chi., St. P., Minneap. & Om.	1945	904	7,005	7,909	7.1	24,361	1,890	902	31.9	750	32.5	3,728	104	65.4
	1944	799	6,641	7,440	5.6	25,561	1,852	860	30.9	780	35.4	3,729	101	65.3
Duluth, Missabe & I. R.	1945	14,554	482	15,036	3.2	88,985	5,275	3,240	56.8	1,114	38.1	30,430	63	130.4
	1944	15,192	477	15,669	2.5	89,982	5,250	3,216	57.2	1,081	37.1	31,007	57	117.8
Great Northern	1945	19,990	21,376	41,366	2.7	47,367	3,078	1,533	36.8	1,285	54.5	6,754	86	84.6
	1944	21,711	25,882	47,593	1.7	44,806	3,003	1,498	36.7	1,477	61.9	8,169	87	106.7
Min., St. P. & S. St. M.	1945	5,910	10,405	16,315	2.5	35,124	2,105	998	34.9	1,065	50.1	3,901	89	124.2
	1944	6,216	7,739	13,955	2.6	34,952	2,063	1,002	34.8	1,078	48.4	3,626	86	122.0
Northern Pacific	1945	15,949	21,983	37,932	4.7	41,356	2,777	1,375	33.3	1,149	48.3	6,750	121	90.9
	1944	16,426	23,433	39,859	2.6	44,110	2,949	1,460	33.2	1,242	52.1	7,539	121	94.5
Central Western Region:														
Alton†	1945	2,668	6,394	9,062	.8	38,518	1,700	745	29.0	641	31.8	6,246	115	106.3
	1944	1,665	7,160	8,825	2.9	39,317	1,839	876	31.0	852	38.0	8,449	110	127.8
Atch., Top. & S. Fe (incl. G. C. & S. F. & P. & S. F.)	1945	41,182	43,806	84,988	4.7	42,813	2,349	968	26.5	1,067	57.8	7,060	110	107.9
	1944	42,669	51,397	94,066	2.6	44,789	2,471	1,008	26.6	1,203	67.2	8,731	107	136.1
Chi., Bur. & Quincy	1945	17,201	28,040	45,241	3.0	42,554	2,660	1,210	31.6	1,216	60.3	6,260	99	101.6
	1944	16,790	32,410	49,200	1.9	42,363	2,632	1,213	30.7	1,251	60.7	6,960	104	107.9
Chi., Rock I. & Pac.†	1945	10,718	24,040	34,758	4.0	34,231	1,984	906	30.0	1,143	55.9	5,088	109	104.8
	1944	9,671	23,756	33,427	3.3	35,802	2,027	924	29.0	1,201	58.6	5,273	105	104.0
Denver & R. G. Wn.†	1945	7,622	8,373	15,995	4.4	33,208	2,139	988	28.3	946	43.3	6,338	168	94.5
	1944	7,417	10,589	18,006	3.3	33,017	2,218	1,030	28.1	978	45.1	7,506	161	106.1
Southern Pacific—Pac. Lines	1945	23,518	59,784	83,302	2.8	36,736	2,780	1,167	26.7	925	48.7	9,783	105	104.9
	1944	25,126	63,588	88,714	2.4	38,059	2,820	1,194	27.5	1,049	55.1	11,088	99	109.3
Union Pacific	1945	26,127	43,047	69,174	3.3	47,382	2,463	1,097	27.9	1,503	76.1	11,271	124	129.1
	1944	26,961	46,027	72,988	2.3	48,602	2,570	1,114	26.9	1,647	85.4	12,039	119	140.6
Southwestern Region:														
Mo.-Kans.-Texas Lines	1945	1,360	6,375	7,735	.2	32,543	1,779	786	29.3	1,518	79.7	3,989	84	109.1
	1944	1,489	7,107	8,596	.6	33,298	1,882	837	29.7	1,927	101.7	5,588	79	137.3
Missouri Pacific†	1945	14,358	22,325	36,683	1.7	38,674	2,345	1,073	30.6	1,329	64.4	7,108	106	103.5
	1944	10,719	29,262	39,981	1.5	39,862	2,404	1,098	31.2	1,510	73.0	8,537	102	114.9
Texas & Pacific	1945	1,720	6,521	8,241	2.4	42,176	2,193	915	27.8	1,235	67.6	5,776	89	79.5
	1944	1,582	8,033	9,615	1.3	41,996	2,299	977	28.4	1,553	85.2	7,704	85	106.5
St. Louis-San Francisco†	1945	6,842	15,261	22,103	1.8	31,498	1,647	746	31.0	1,164	57.5	5,597	127	112.1
	1944	5,852	13,467	19,319	1.9	32,226	1,672	765	30.0	1,362	66.8	5,745	128	115.9
St. Louis-San Fran. & Texas	1945	...	360	360	1.9	21,463	1,086	463	29.2	1,455	74.1	3,018	115	143.5
	1944	...	280	280	12.9	19,966	1,007	421	26.9	1,566	86.1	2,851	120	128.4
St. Louis Southw. Lines†	1945	1,111	5,170	6,281	2.3	37,004	2,156	964	26.8	1,548	78.9	6,306	85	80.5
	1944	1,087	7,128	8,215	.8	39,229	2,349	1,094	29.0	2,092	101.7	10,339	78	118.1
Texas & New Orleans	1945	3,739	16,777	20,516	4.4	32,853	1,815	807	28.6	1,079	53.5	5,200	89	107.3
	1944	3,747	18,867	22,614	2.4	30,706	1,756	764	29.0	1,312	69.9	6,680	92	145.2

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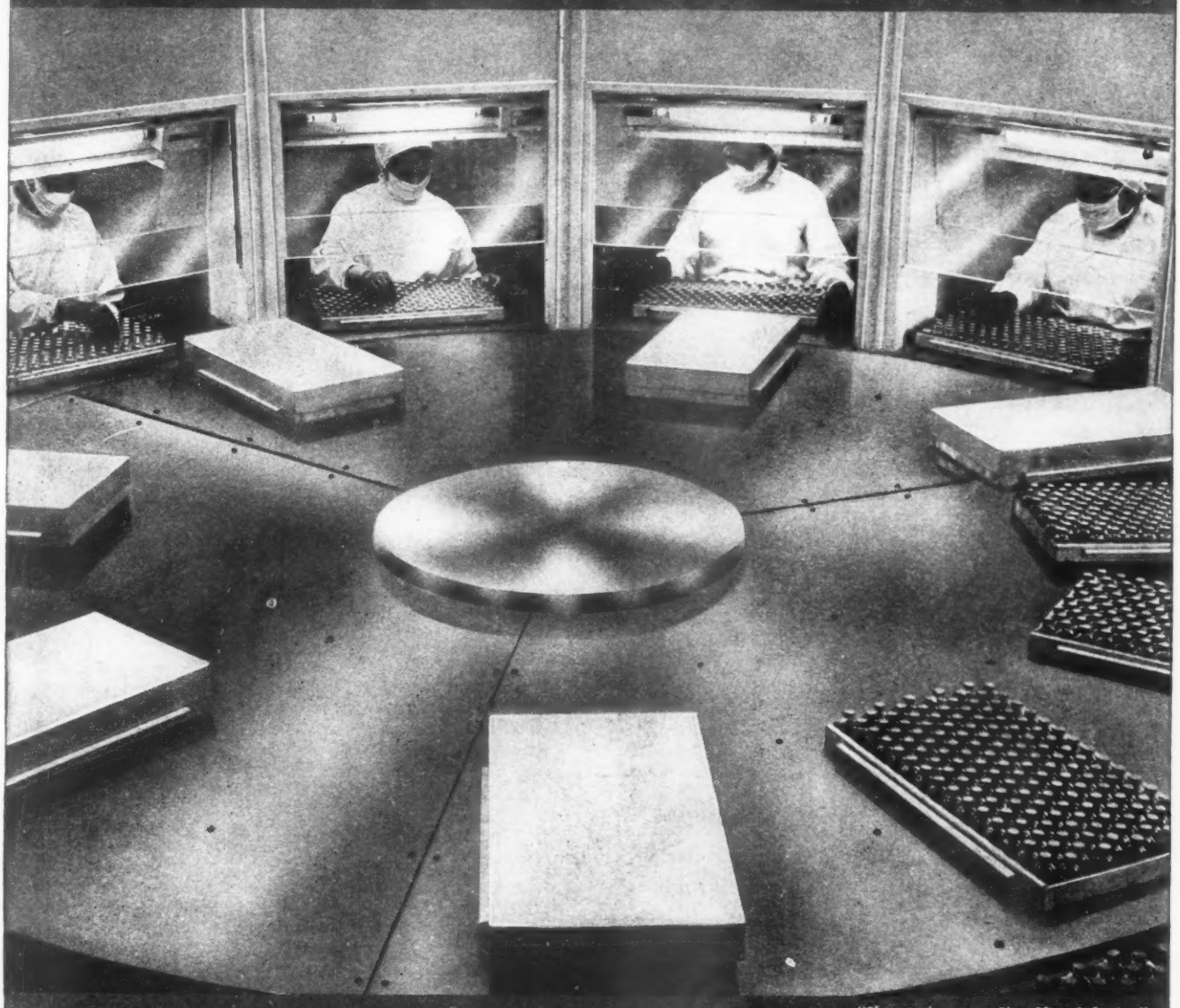

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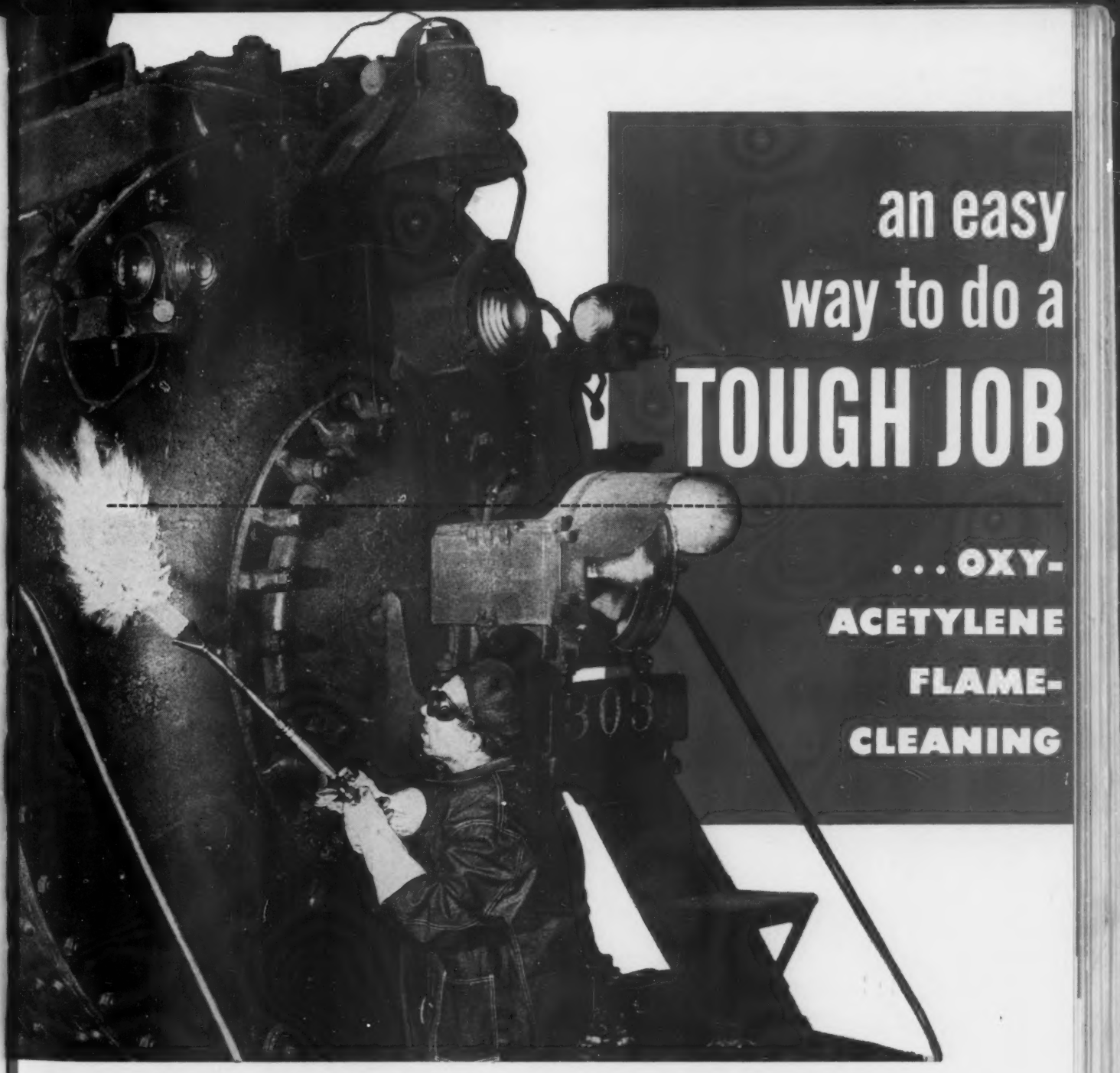

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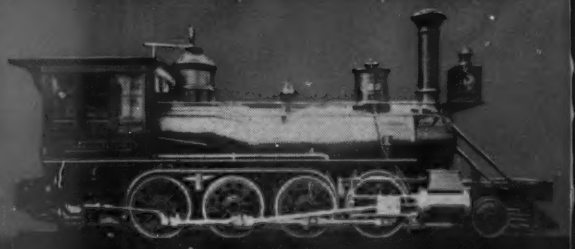
1856

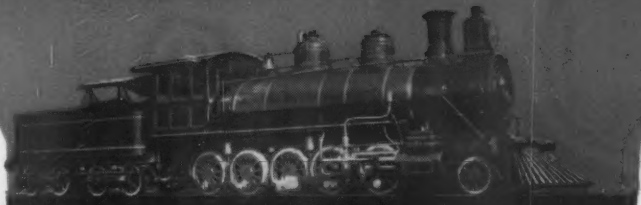
THE TIGER, an outstanding type of its day, built for the Pennsylvania Railroad.

1866



FIRST "CONSOLIDATION", a type which soon achieved world-wide popularity.

1885



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1901

FIRST "PACIFIC" TYPE, practically the standard passenger locomotive for thirty years.

1906

FIRST MAJOR ELECTRIFICATION on the New Haven used Baldwin-Westinghouse locomotives like this.

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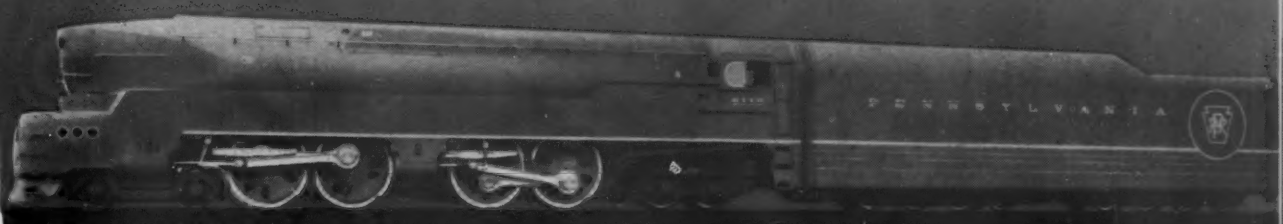
1937

EARLY STREAMLINER used by the Santa Fe in steam-operated, cross-continental passenger service.



1942

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THE "S-2" STEAM TURBINE LOCOMOTIVE, first gear-driven engine of this type in America, opening the way to new conceptions of steam motive power.

1945

DIESEL-ELECTRIC MAINLINER, the most recent development in this field for both freight and passenger service.

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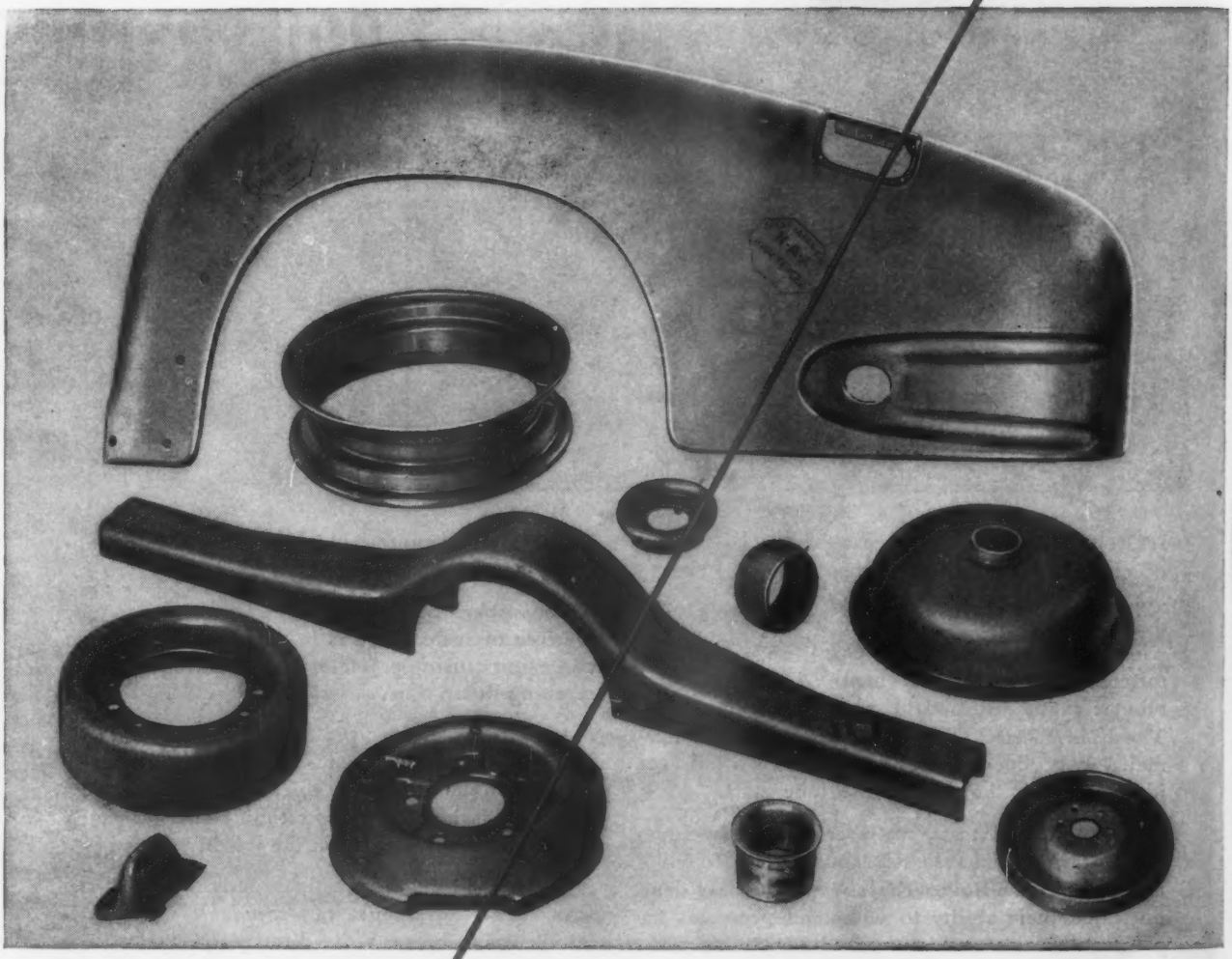

These are not an artist's conception of shapes that can be fabricated with a high-strength steel. They are actual parts produced with *N-A-X High-Tensile* by manufacturers who have learned that *great strength and exceptional formability* are available in one great steel. ¶ If you have a problem that involves the fabrication of high-strength steel—if you have a product that could command the market if it were stronger, longer-lasting or lighter—consult Great Lakes Steel Corporation.

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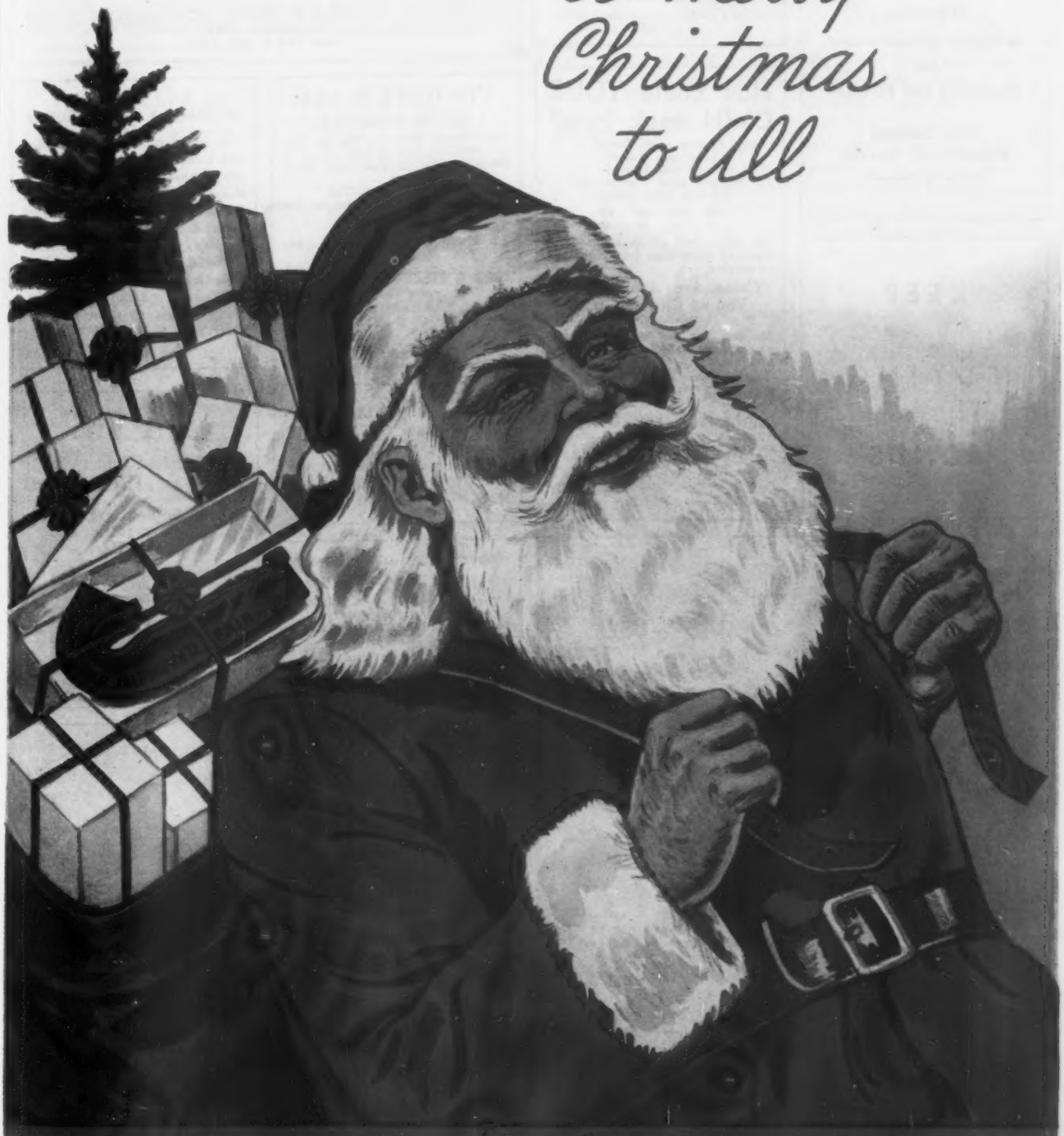

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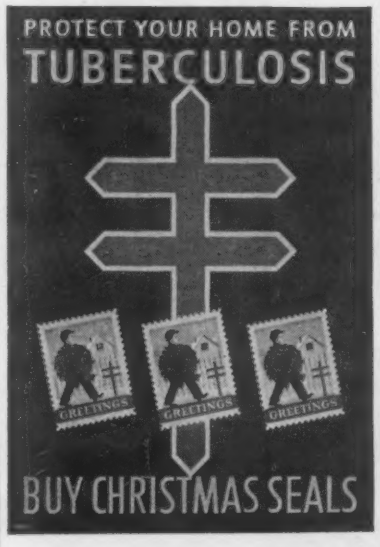

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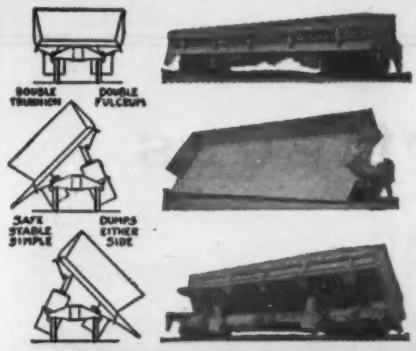

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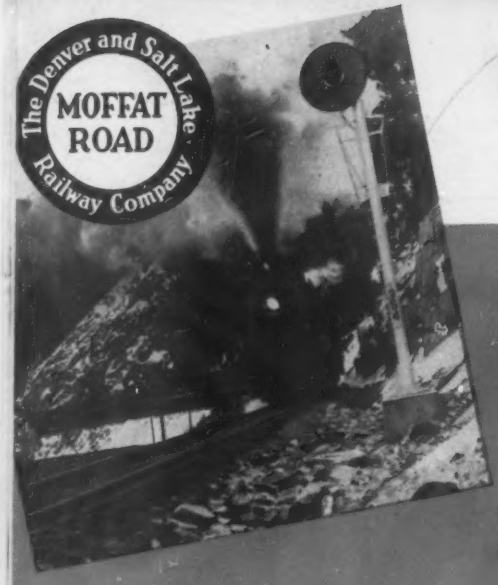
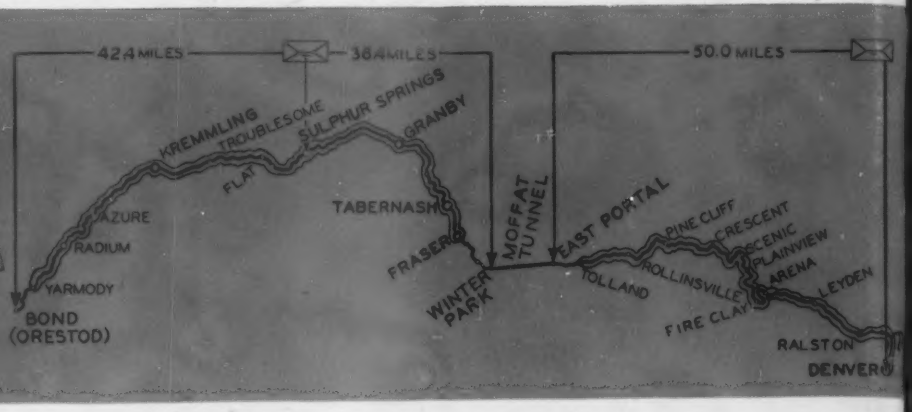


NORMALLY DEENERGIZED CODED TRACK CIRCUITS . . .



. . . with CENTRALIZED TRAFFIC CONTROL:

The Denver and Salt Lake Railroad has just completed 128.8 miles of G-R-S Centralized Traffic Control using normally deenergized coded track circuits. This is the longest installation of its kind in which all the coded track circuits are normally deenergized.

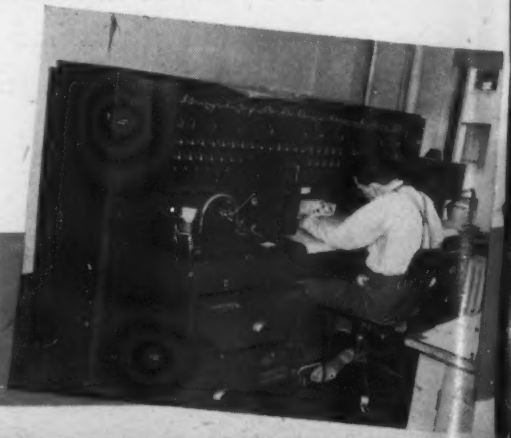
When the operator of the $\overline{\text{CTC}}$ machine sets up a route, only the circuits in this particular route are energized. Controlled signals are normally lighted and intermediate signals are series approach lighted at about 4000 feet. As soon as a train has cleared a station to station block, if there are no other trains in either adjacent block, the signal operating coils, all relays and code transmitters are automatically returned to deenergized condition. They remain deenergized until the $\overline{\text{CTC}}$ operator makes another line-up over the route.

This installation has proven very economical for the Denver and Salt Lake Railroad. Records show that as many as 60 trains have been handled in a 24-hour period with considerable train-time savings as compared to previous method of operation.

Some important advantages offered by this new development are:

1. Total power consumption varies according to the density of traffic. When there is no traffic, no power is used.
2. The savings in installation costs and maintenance are considerable because no signal control line wires are necessary.
3. Compared to an ordinary straight automatic block system fewer intermediate blocks are required to handle the traffic without delays to following trains.
4. In some instances we can now supply $\overline{\text{CTC}}$, built around this new idea, for only a little more than you would have to spend for an ordinary straight automatic block system.

Ask our nearest District Office for particulars.



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